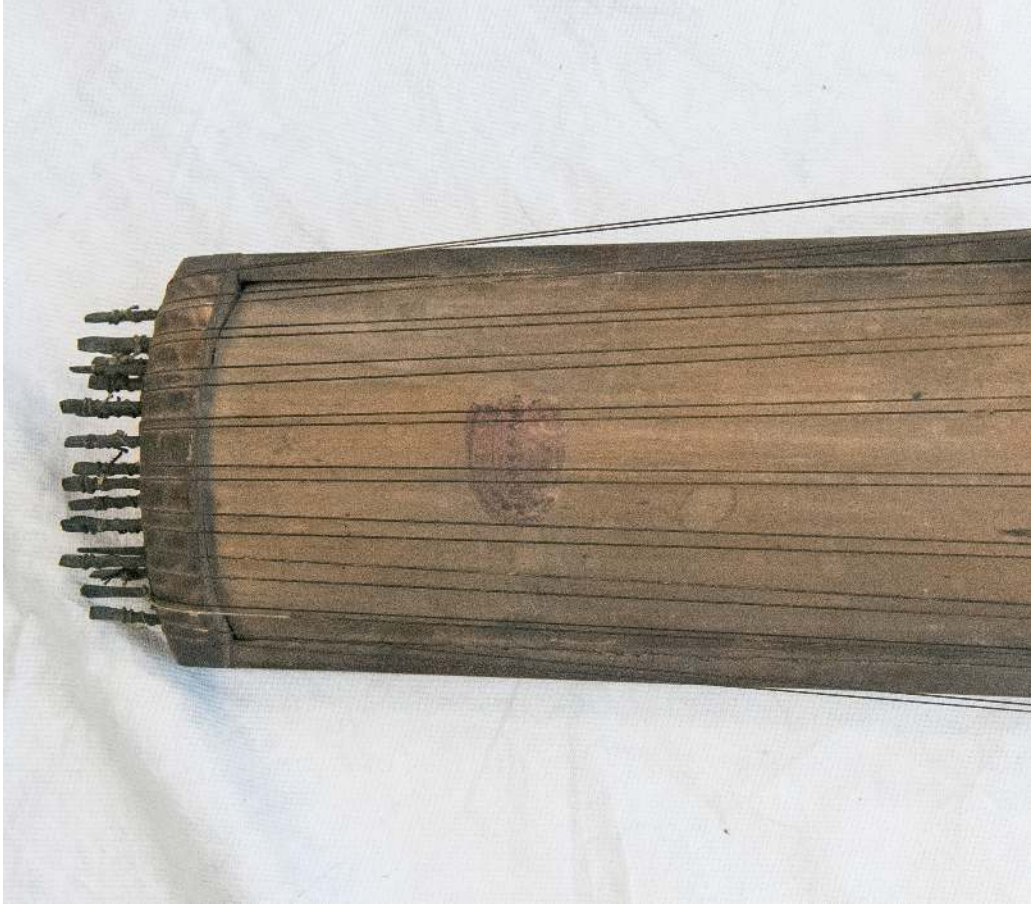

Musical Bows and Zithers along the Great Silk Road

EDITED BY
Xiao Mei & Gisa Jähnichen

2023

λογος

Musical Bows and Zithers
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Shanghai Conservatory of Music

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REMARKS

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INTRODUCTION

The 28th ICTM Colloquium titled **From Musical Bow to Zithers along the Silk Road** was held on 1-2 December 2022, co-hosted by the International Council for Traditional Music (ICTM) and Shanghai Conservatory of Music, China.

The Silk Road was already an important topic in the history of ICTM colloquia. This is the fourth colloquium on "Musical Instruments along the Silk Road" held by Shanghai Conservatory of Music after "Plucked Lutes of the Silk Road: The Interaction of Theory and Practice, From Antiquity to Contemporary Performance" (October 2016), "Double Reeds of the Silk Road: The Interaction of Theory and Practice from Antiquity to Contemporary Performance" (November 2018), and "Drums and Drum Ensembles of the Silk Road" (November 2020).

The programme committee consisted of Xiao Mei (China), Pornprapit Phoasavadi (Thailand), Razia Sultanova (UK/Uzbekistan), Jasmina Talam (Bosnia & Herzegovina), Manfred Bartmann (Austria/Germany), Saule Utegalieva (Kazakhstan), and Gisa Jähnichen (China/Germany). The local arrangement committee for this colloquium consisted of some faculty members and students at Shanghai Conservatory of Music.

This colloquium comprised presentations by 18 scholars from Lithuania, Bosnia Herzegovina, Malta, Thailand, Malaysia, Indonesia, Germany, the United States, New Zealand, Sri Lanka, Canada and China: Ahmad Faudzi Musib, Arthur Borman, Chinthaka P. Meddegoda, Gisa Jähnichen, Palmer Keen, Long Fei, Han Mei, Hans Brandeis, Henry Johnson, Lana Šehović, Jasmina Talam, Xiao Mei, Cui Xiaona, Chu Zhuo, and Xiong Manyu. Five sessions dominated the programme: 1) Musical Bows and Zithers in Europe; 2) Southeast Asian Cases; 3) Regional Studies; 4) The Long Way to the Zithers; 5) The Musics and Ecology of Bowed Zithers in China and East Asia.

All presentations were prerecorded items and replayed by the session chairs. At the same time, the colloquium also included a workshop on "From Localized Ensemble Genres to Solo Schools: The Constructed History of Chinese Zheng Schools and Interpretation Based on Performance" presented by two Chinese *zheng* performers.

The opening ceremony was chaired by Xiao Mei of the Shanghai Conservatory of Music. She began by pointing out the significance of organizing four consecutive colloquia on "Musical Instruments along the Silk Road", and presented the publication results of the three colloquia to the 200 participants from all over the world who attended the opening ceremony. After that, Svanibor Pettan, President of the International Council for Traditional Music (ICTM) and Liu Ying, Vice Dean of the Shanghai Conservatory of Music, delivered speeches at the opening ceremony.

The five sessions of this colloquium reveal a number of aspects important to further research on the history and use of string instruments in regions and areas connected to the Silk Road. Scholars have focused on regions ranging from Europe to East Asia, South and Southeast Asia, broadly connecting Eurasia and Southeast Asian islands. Both regional and cross-regional studies have contributed to the re-conceptualization of the typology of zither instruments and their relationships in terms of shapes, sound, and performance in a rather wide space. These studies not only reveal details about the historical mobility of the musical bows and zithers, but also show how they moved from the distant past into our contemporary life.

Besides excellent presentations, the Local Arrangements Committee (LAC) prepared a special workshop “From Ensemble to Solo Genre: The History and Evolution of Chinese *Guzheng* Genre". Yan Xu from Shanghai Jiaotong University, and Wang Yi, a *zheng* player, performed and explained the workshop together. The event was distributed live on the internet and presented a rich explanation and wonderful performance for hundreds of listeners.

In general, this colloquium challenged some previous descriptions and tried to overcome one-sided explanations of historical developments. It was a step into re-researching progression lines, connecting the idea of instrumental developments with the natural resources of large regions. Sound production, especially with musical instruments, was but one important aspect of the colloquium. Another aspect was to incite ongoing discussions on global changes in this regard and the role of ethnomusicology as a discipline with high responsibility to guide local decision-making and interregional cooperation for joint research.

Thanks to the ICTM members organized in the Programme Committee, Local Arrangements Committee, and local staff, the 28th Colloquium came to a successful close. We were looking forward to the profound impact of this Colloquium, as well as to the next Colloquium. An illustrated report of the colloquium can be found in the ICTM January Bulletin of 2023.

For this volume were chosen those scholars who passed a second round of peer reviews and were recommended for print after they submitted and revised their papers. Not all participants are included as these are not proceedings but selected papers of the colloquium.

In course of the review and printing process, the sections had to be reconstructed as seen in the table of contents.

The first section is dedicated to the turning point China as this seems to be a priority in talking about anything regarding the Silk Road. All efforts have to do with the trade and the changes of societies along the route of this trade path. China is the place of departure and destination. The three studies of Xiao Mei and Xiong Manyu, Cui Xiaona, and Chu Zhuo in the section were all delivered in a well organised session and have shown the deep understanding of materials to be investigated in an overarching and comprehensive way.

The second section deals with the path along the Southern part of Asia. There are four studies that were of interest. They are about specific types of musical bows and derived zithers, their distribution and diversity delivered by Ahmad Faudzi Musib, Pornpratit Phoasavadi, Wei Ching Bing, and Gisa Jähnichen.

The third section conveys some historical connections to destinations of the Great Silk Road including developments of the last century. Southern Europe is one central topic, which was in detail investigated by Jasmina Talam and Lana Šehović, wider connections were the historical insights of Juan Sebastián Correa Cáceres and the South Asian perspective did also play an important role as Chinthaka P. Meddegoda could show.

The last section is dedicated to examples from East Asia with some wonderful contributions of Mei Han, Henry Johnson, and Long Fei, who summarized many insights.

Thousand thanks go to the nameless reviewers, supporters, researchers, translators, organizers, the publisher, and recruited staff members, who enabled the Shanghai Conservatory of Music to be the central host of this 28th ICTM Colloquium.

Xiao Mei / Gisa Jähnichen

September 2023

SECTION 1

TURNING POINT CHINA

An Overview of Chinese Bowed Zither Instruments: Types, Constructions, Performances, and Changes

Xiao Mei [萧梅] and **Xiong Manyu** [熊曼谕][1]

Abstract

The existing bowed and struck zithers in mainland China can be divided into two categories in terms of shape: tube zither and board zither. The earliest recorded bowed and struck zither in Chinese literature is the "zhu" [筑], which has been lost, so for a long time, people could only speculate on the appearance of the instrument based on the literature; the instrument is played by pressing the fret, vibrating it with the left hand, and striking it with the bamboo piece with the right hand. It was not until the 1970s and 1990s that people were able to get a glimpse of the actual objects and painted images in the excavated artifacts from the Han Dynasty tombs. The ancient bowed zither that appeared in historical documents and still has similar instruments spread today is a *Ya Zheng* [轧筝], which is recorded in the *Jiu Tang Shu* [旧唐书] (Old History of the Tang Dynasty) (945 AD) and Chen Yang 's *Yue Shu* [乐书] (Treatise on Music) (1101 AD). Although *Ya Zheng* faded away after the Qing Dynasty,

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[1] Xiao Mei is a professor at the musicology department of Shanghai Conservatory of Music. She is the Director of the Research Institute of Ritual Music in China, an appointed researcher of the Museum for Oriental Instruments. Beyond this, she is the President of the Association for Traditional Music in China and she was a Member of the Executive Board of ICTM (2011-2019, founding member of the ICTM Study Group on East Asian Music and the ICTM Study Group on Global Music History). She is also Chair of the National Committee of the ICTM in China. She has been collecting and studying traditional, folk and ritual music of the Han people and other groups in China such as Mongolian, Oroqen, Naxi, Miao (Hmong) and Zhuang over a long period of time.

Xiong Manyu is a doctoral student at Shanghai Conservatory of Music majoring in ethnomusicology. She is a member of the International Council for Traditional Music and Chinese Traditional Music Society. She has been learning *Guzheng* since childhood. In 2014, She majored in Chinese ancient music historiography and *Guzheng* performance at the Music School of Central China Normal University. In 2018, she came to the Shanghai Conservatory of Music to study for a master's degree and a doctorate in ethnomusicology under the guidance of Professor Xiao Mei until now.

Xiao Mei [萧梅] and Xiong Manyu [熊曼谕]. 2023. An Overview of Chinese Bowed Zither Instruments: Types, Constructions, Performances, and Changes. *Musical Bows and Zithers along the Great Silk Road*. Edited by Xiao Mei and Gisa Jähnichen. Berlin: Logos, 1-32.

there are still similar instruments in folklore, such as the Shandong *Cuo Qin* [挫琴], the Hebei *Ya qin* [轧琴], the Putian *Wenzhenqin* [文枕琴], the Jinjiang *Ya Zheng*, the *Chen Yin* (in Zhuang people's language) of the Zhuang people, and many more. On the basis of historical literature, fieldwork, and previous studies, a comparison of the materials, forms, and performances of the extant bowed (and struck) zithers in China can be seen, which shows the great tension of the instrument in different cultural occasions and its rich and diverse cultural ecology, and it not only is a transitional instrument from striking to bowing but also creates new meanings in different contexts and collides with different cultural ecologies to create new expressions.

KEYWORDS

China, Bowed and struck zithers, *Ya Zheng*, Historical sources, Diversity

INTRODUCTION

The existing bowed and struck zithers in mainland China can be divided into two categories: tube zithers and board zithers. Regarding the production of sound, bowed zithers can also be divided into sub-categories such as 'bowed', 'struck mixed with bowing', while the main sub-category is possibly struck. Due to the differences in documentation, geographical distribution, and music genres, the designation, construction, and playing methods of these instruments also differ at the microscopic level. For example, in playing, it can be placed horizontally or vertically on the arm or on the floor supported by a stand. When *Ya Zheng* is placed on the left arm, the right hand holds a bow or a stick-shaped object of different materials to strike or bow the strings, but the left hand does not press the strings to get the tone, so it presents the characteristic of one string representing one tone; when it is placed on the floor, the player sits on the floor behind the instrument and plays the bow on the right side of the yard, and the left hand changes the pitch and vibrato by pressing the strings on the other side of the face cover. But in either form, the tone is generally rough and husky, with a strong tension and expressiveness. Recently, bowed zithers have been more often played with horsetail bows instead of wooden sticks or plant stems to make their sound smoother.

Throughout the research on this kind of musical instrument in some Chinese academic circles, certain achievements have been made since the 1980s, which can be roughly divided into three stages: from the 1980s to the 1990s, the research focus was on the historical origin of bowed instruments and the ancestors of bowed instruments, for example, by Zhou Wuyan [周武彦][2]. Since the beginning of the 21st century, due to the attention paid to the study of folk

[2] Zhou Wuyan [周武彦]. 1992. Zhongguo Xianyueqi Yuanliushutan [The Origin of String Instruments in China]. Journal of Nanjing Arts College (Music and Performance Edition), 3:19-23.

music, the conclusion that folk music is dying out based on the number of written documents has been gradually replaced by the discovery of similar musical instruments in various regions, fieldwork, and case studies of musical instruments. In the last five years, although comparative studies of musical instruments have emerged, they still focus on form comparisons and continue to place these instruments in the framework of the history of bowed instruments.

Unlike studies that focus on the historical approach to the origin of the bowed instruments, this paper is based on synchronic fieldwork, addressing the existing circumstances of the bowed instruments in mainland China as well as in East Asia as a whole and focusing on similar instruments named *Ya Zheng*, while reviewing the history of *Ya Zheng* in Chinese historical sources. And on the other hand, starting from the concrete application of this kind of musical instrument in different kinds of music, the authors identify the different materials, forms, tune-up, playing techniques, performance contexts, and musical styles of this instrument and further reveal the instrumental ecology behind such differences, considering the contemporary fate of bowed zithers in China and East Asia.

THE *YA ZHENG*: A BOWED ZITHER INSTRUMENT IN HISTORICAL DOCUMENTS

As mentioned above, *Ya Zheng* flourished in the time period of the Tang Dynasty (618–907). The first Chinese account of it appears in the *Jiu Tang Shu*: In Tang, there was a *Ya Zheng*, which was played by moistening its ends with bamboo pieces, hence its name. In the Tang Dynasty, *Ya Zheng* was played with lubricated bamboo pieces. In Chinese, the word Ya means the action of playing the instrument, which is why the instrument was named *Ya Zheng*.

An early illustration of *Ya Zheng* appears in Chen Yang's *Yue Shu* during the Northern Song Dynasty time period, which shows a long zither with a slightly raised soundboard, about seven strings and yards, and an L-shaped musical bow (Figure 1).

During the Southern Song Dynasty, *Ya Zheng* had another exclusive name, Zhen [箏]. Zeng Sanyi [曾三异] (1146–1236) wrote in his book *Tonghualu* [同话录]: "There is a small instrument with seven strings called *Ya Zheng*, but now it is called *Zhen*. The *Zhen Zheng* is called two things by one."[3] *Wulin*

[3] Zeng Sanyi [曾三异] n.d. *Tonghualu*. [Synopsis]. Ms. without page numbers.

Jiushi [武林旧事] (*The old story of Wulin*)[4] and the *Ducheng Jishi* [都城纪事] (*Chronicle of the Metropolis*), both anonymous writings in many volumes, which were written in the same period, also documented the instrument, including the players and the explicit form of performance, such as the formation of a Xiyue Hezou [细乐合奏] (ensemble of traditional string, woodwind, and bamboo instrument music) with the Jiqin [稽琴], Xiaoguan [箫管], Sheng [笙], and Fangxiang [方响].

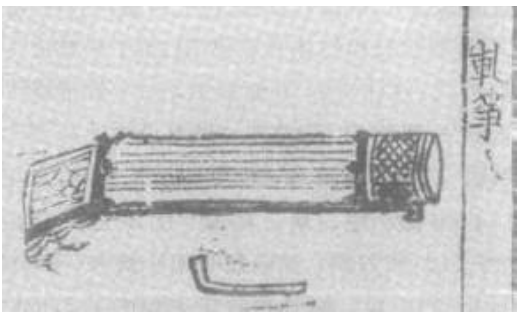

Figure 1 (left): Illustration from the Yueshu of Chen Yang.[5] Figure 2 (right): The mural tomb of Xu Gui in the sixth year of Zhenglong in the Jin Dynasty.[6] Printed with permission.

From the mural tomb of Xu Gui [徐龟] in the sixth year of Zhenglong in the Jin Dynasty (1161) excavated in the 1990s, it can be seen that the *Ya Zheng* was placed on a small table, and the female musician was playing with a long and thin stick in her right hand while pressing the strings with her left hand (Figure 2).

In the historical scenes of the Ming Dynasty time period, the uses, forms, and playing forms of the *Ya Zheng* were gradually enriched, covering the size, string system, and holding and playing style. The authors have slightly sorted out the documentary records and excavated artifacts of this period, which can be summarized as follows.

Court and Official Music

Zhen used in court and official occasions is mainly small and with seven strings. For example, the small instrument in the fresco "Hougong Yanyuetu" [后宫燕乐图] (the court banquet music in the harem; north wall) reflects the

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4 Sun Ruqi [孙如琦]. 1992. Wulin jiushi 武林旧事. Zhongguo da baike quanshu 中国大百科全书, Zhongguo lishi 中国历史 Beijing/Shanghai: Zhongguo da baike quanshu chubanshe, Vol. 3: 1257.

5 Chen Yang [陈旸]. 1101. 乐书 - Yue Shu. [Treatise on Music]. Ms. without page numbers.

6 Xiang Yang [项阳] and Tao Zhenggang [陶正刚]. 2000. A Collection of Chinese Musical Relics. Shanxi Volume. Hongkong: Elephant Press, 247, Figure 2.4-2.7.

scene of the emperor's lubu Guchui [卤簿鼓吹] (the imperial guard of honor drumming and blowing music) and the court banquet music in the harem, and *Zhen* in the picture is played by hand with the head down.

Figure 3: Hougong Yanyuetu, a picture of Shengmu Temple of the Houtu in Tian Village, Fenyang, Shanxi.[7] Printed with permission.

In the literature, we can also see that *Zhen* was widely used in the court's lubu Yizhangdui For example, the *Minghuidian* [明会典] (Code of Great Ming Dynasty), Vol. 115, which was updated in the third year of the Yongle era (1405), has "eight sets of *Zhen*" among the musical instruments in the entries, and "two sets of *Zhen*" are recorded in the entry of the Imperial Prince's guard of honor of *Minghuidian,* Vol. 116.[8]

Folk Zouhui [走会] Procession

In the Ming and Qing dynasties, various kinds of folk Baixi art such as "zouhui" of acrobatics were widely popular. The Ming dynasty "Xianzong Yuanxiao Xingle Tujuan" [宪宗元宵行乐图卷] (Ming Emperor Xianzong's Celebration of Lantern Festival) describes the performance scene of the inner court of the capital in the 21st year of Chenghua (1485), which imitates the folk Lantern Festival cabaret and acrobatics. In front of Zhong Kui [钟馗]'s performing team is a small instrumental ensemble, and the way of playing *Zhen* can be clearly seen on the way, and it is at the forefront of the marching team, followed by Clappers, Pipa, Sheng, and Guan (Figure 4).

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7 Xiang Yang [项阳] and Tao Zhenggang [陶正刚]. 2000. *A Collection of Chinese Musical Relics*. *Shanxi Volume*. Hongkong: Elephant Press, 264, Figure 2.4-18i.

8 *Minghuidian* [明会典]. N.d. [Code of Great Ming Dynasty]. Many volumes. Here used 115-116.

Figure 4: Xianzong Yuanxiao Xingle Tujuan (Ming Emperor Xianzong's Celebration of Lantern Festival during the Ming Dynasty time period).[9] Printed with permission.

YA ZHENG PLAYING IN A PRIVATE ENSEMBLE

The tradition of playing *Ya Zheng* or performing small ensembles with *Ya Zheng* at banquets has been prevalent since the Tang dynasty. Many poets have described the performance of *Ya Zheng*. For example, Liu Yuxi [刘禹锡], a poet of the Middle Tang dynasty, wrote a poem directly after the scene of listening to *Ya Zheng* playing, "Listen to *Ya Zheng* playing"; the audience listens to *Ya Zheng* playing without words, and the cicadas are clear on the autumn mountain and the green trees. It should only have been sent to a pure girl who plays the *Zhen* to write the sound of the phoenix among the clouds.

From the Ming dynasty (1368–1644) onward, *Ya Zheng* also appeared in the private ensemble in Jiangnan. When Sanyue [散乐] was played in the "banquets and small gatherings" of the duke and marquis, and the rich families, the *Zheng*, *Zhen*, Pipa, Sanxian, and Clapboard were used to play the music. In the upper left corner of the embroidered portrait of *Pipaji* [琵琶记] (Records of the Pipa) in Wanhuxuan engraved book in the Wanli period of the Ming dynasty, a maid of honor leans against her left shoulder while holding a *Ya Zheng* (Figure 5).

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9 Yuan Quanyou [袁荃猷], 1999. A *Collection of Chinese Musical Relics - Beijing Volume*. Hongkong: Elephant Press, 244, Fig. 2.6-14a.

Figure 5: Embroidered portrait of "Pipaji", quoted from Gao Ming's "Pipaji", Wanhuxuan engraved book by Wang Guanghua in the 25th year of the Ming Dynasty.
Figure 6: Yu Zhiding's "The picture of female musician" in the Qing Dynasty.[10] Printed with permission.

During the Qing dynasty (1644–1912), the Ming dynasty style was continued. Cultivating the most excellent musicians has become a fashion. "The picture of female musician" (1703) painted by Yu Zhiding, a famous painter of the Qing dynasty, also shows clearly the pattern of *Ya Zheng*.

Through the above sketch (Figure 6), we can see that the important ceremonial occasions in which *Ya Zheng* was once performed include: court ceremony procession, folk Zouhui (traditional folk music performances), and private ensemble; the overall ecology of *Ya Zheng* performance changed drastically as the historical process continued to develop. *Ya Zheng* left behind in the music genres and local Xiqu of various places gradually lost their survival ground, and the records of this instrument also disappeared until the Early Republic of China.

It was not until the 1950s that the cultural departments at all levels in China started to excavate and organize folk arts under the policy of rescuing traditional culture. Among them, *Ya Zheng* and its similar bowed instruments were discovered. In addition to the "*Ajaeng*" of the Korean people, which shows an obvious inheritance in form and pronunciation with *Ya Zheng* in the literature, the discovery also includes the bowed instrument *Zhentouqin* used in the accompanying instrument of Wen Shiyin in Hanjiang Town, Putian City, Fujian Province, in 1953, and in 1957, in the first music performance in Qingzhou City, Shandong Province, the accompanying instrument "Cuo qin" was found for the Bangzixi [梆子戏] and folk ditties; in 1988, the accompanying instrument *Ya qin* was found in Yuanmen Village, Yangzhuang

[10] Zhao Feng [赵沨]. 1991. *Chinese Musical Instruments*. Beijing: Modern Press, 76.

Township, Maigang City, Henan Province, and so on. Although these instruments were found in different regions and their forms differed, they all had one common feature: they could be bowed and belonged to the category of scraping-playing instruments, and their forms and playing methods had a high degree of similarity with those of *Ya Zheng* (or *Zhen*) recorded in the literature. Before we start our discussion on the existing bowed and struck zither instruments, it is necessary to review the research in this area in the framework of Chinese musicology.

FORMER RESEARCH AND STUDIES

In mainland China, the bowed and struck zither instruments have a long history and are widely distributed, but little is known about them. In addition, the term "*Ya Zheng*" is often used as a general term for the study of these instruments. The most impressive thing about *Ya Zheng* is its unique playing style (striking or scraping a string with a bamboo piece) and its similar shape to Chinese *Zheng*. Therefore, the academic circles often start from these two aspects in the investigation and research of *Ya Zheng*.

Figure 7: The monster striking "Zhu" on the coffin of Tomb No.1 of Mawangdui in Western Han dynasty.[11] Printed with permission.

In the 1980s and 1990s, the research on *Ya Zheng* was mainly focused on the historical origin of the bowed instrument and the ancestor of the bowed instrument. A representative view is that the scholar Xiang Yang put forward the assertion that

> "*Ya Zheng* belong to the early development stage of Chinese bowed instruments". *Ya Zheng* and Zhu, which was a musical instrument that

[11] Zao Zhixi [高至喜] and Xiong Chuanxin [熊传薪]. 2006. *A Collection of Chinese Musical Relics. Hunan Volume*. Hongkong: Elephant Press, 283, Fig. 2.2-2.4j.

> produced sound by striking strings in the pre-Qin period, have the same origin, so they are both called the "Zhu family of musical instruments", [12]

which is a unique Chinese bowed family of striking and rolling strings, to delineate and emphasize the early stages of development before the emergence of Chinese Huqin-like bowed instruments.

On the other hand, in the classification of traditional Chinese musical instruments, besides the bayin (eight-tone) classification, another more common and widely popular classification is to classify traditional string instruments into blowing, striking, plucking, and bowing according to the way they are played, among which the latest to appear in China is the bowed string instrument. The emergence of *Ya Zheng*, however, is considered to mark the development and transition from striking to bowing string instruments in China and is the progenitor of various bowed instruments.[13]

In the 21st century, the focus of research has gradually shifted to fieldwork and case studies of similar instruments in various regions; in the past five years, although comparative studies of musical instruments have emerged, they still focus on form comparisons and continue the framework of thinking about the history of bowed instruments. This has also built a fixed understanding of *Ya Zheng* for the new generation of scholars, that the value of *Ya Zheng* is mainly reflected in its transitional value as the progenitor of the bowed instrument and at the boundary between struck and bowed instruments.

Generally speaking, the research on *Ya Zheng* can be divided into two categories among Chinese scholars. The first category is based on the origin of the bowed instrument, and the researchers mostly emphasize the transitional role of *Ya Zheng* as an instrument from struck to bowed, in order to confirm the continuity of this process in the same instrument. On the other hand, fieldwork and case studies of organology are used to discuss the survival of *Ya Zheng*, but it is less common to compare the commonalities and differences between the Chinese and East Asian bowed zithers from a macro perspective. It is also less common to discuss why these instruments are gradually disappearing and almost on the verge of extinction as "cultural heritage". Therefore, this study will combine fieldwork and former research to classify and compare the forms and performances of the existing *Ya Zheng*-like instruments in China and East Asia and discuss their fate in the midst of social and cultural changes. As mentioned above, in the discussion of bowed zither instruments in mainland China, the struck zither category, which is

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[12] Xiang Yang [项阳]. 1999. Zhongguo Gongxian Yueqishi [History of Chinese bowed string instruments]. Beijing: International Culture Publishing House,143.

[13] Zhou Wuyan [周武彦]. 1992. Zhongguo Xianyueqi Yuanliushutan [The Origin of String Instruments in China]. Journal of Nanjing Arts College (Music and Performance Edition), 3: 22.

different in terms of instrumental classification, is often used as a reference for historical evolution; therefore, this paper will also cover the extant struck zither instruments in mainland China.

Distribution and Classification of Existing Bowed and Struck Zithers in China: The Geographical Distribution Map

According to fieldwork and former research undertaken, we drew a geographical distribution map of existing bowed and struck zithers in China. Behind these synchronously distributed instruments, the overall ecology in which they are actually located has undergone great changes. Only a few areas still rely on folk activities to play them. In most areas, musical instruments like *Ya Zheng* may enter the vision of "cultural heritage" protection and be stored in local museums and intangible cultural heritage exhibitions as "living fossils" of musical instruments. Or they have entered the field of art performance, following the path of professional development of Chinese folk instrumental music and relying on colleges and composers to pass them on. In this paper, we will take a few representative examples to show the construction, performance ecology, and changes of the bowed zither and struck zither instruments, which are collectively known as *Ya Zheng* instruments.

Figure 8: A map of existing bowed zithers in China, created by the authors. Printed with permission.

From Figure 8, it can be seen that *Ya Zheng*s are provenly distributed in 9 provinces and 13 regions in China, involving 13 music genres, from the north to the south of China, and there are *Ya Zheng*s in Hebei province, Wa Qin [瓦琴] in Beijing city, *Ya qin* in Hebei province, Cuo Qin and Fu Qin in Shandong province, *Ajaeng* of Korean people[14], *Ya Zheng*s in Henan province, *WenZhenqin* in Fujian province, Ce [筴] and *Zhutongqin* [竹筒琴] in Yunan province, *Tong Deng* [筒噔] in Guangxi province, and *Chenyin* of Zhuang people. The Yunnan *Zhutongqin*[15] (Wu Xueyuan [吴学源], 2009) and Guangxi *Tongdeng* are classified as struck zither instruments. According to the H-S musical instrument classification system, *Ya Zheng*-like instruments belong to the single course musical instrument number 31. They can be further subdivided into two major categories. One is the tube zither, which is mainly distributed in the southern and southwestern regions of China and borders to current Southeast Asian countries. The other is the board zither, which is also a main type of Chinese bowed zither and is found in both the north and the south (including the Korean Peninsula). The latter has all strings parallel to the top and has boxed resonance boxes, that is, number 314.122, according to von Hornbostel and Sachs.[16]

TUBE ZITHERS

According to our research in mainland China, there are two types of tube zithers: whole-tube zithers and half-tube zithers.

WHOLE-TUBE ZITHERS

This type of instrument includes Yunnan *Zhutongqin* and Guangxi *Tongdeng*. The *Zhutongqin* is in use among the Dai, Jinuo, and Hani people in the southern part of Yunnan Province. The body of the instrument is made of a thick piece of bamboo, and the outer skin of the bamboo tube is lifted up to form the strings, which are played by tapping sticks. The strings range from one to five, with two strings being common. In many ethnic groups, the *Zhutongqin* is just a toy for children, so it is very arbitrary and has no relative

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[14] Jones, Stephen. 2021. https: *Bowed zithers, 1: Korea and China.* available under //stephenjones.blog/2021/10/29/bowed-zithers-1/, last accessed 5th May, 2023.

Lan Xuefei [蓝雪霏]. 2005. Zhongguo Fujian Yueqi he Chaoxian Yueqi de Guanlian [The Association of Chinese Fujian and Korean Musical Instruments]. *Musical Arts*, 2: 71-81.

[15] Wu Xueyuan [吴学源]. 2009. Yunnan Minzu Yueqi Tulu [Yunnan Ethnic Musical Instruments Catalogue]. Yunnan: Yunnan Fine Arts Publishing House.

[16] Kartomi, Margaret Joy. 1990. *On Concepts and Classifications of Musical Instruments*. Chicago: University of Chicago Press, 173.

pitch requirements as it can be played. However, in some ethnic groups, its use has a certain purpose. For example, among the Jingpo people, it has become a kind of magic instrument for the primitive religious priest "Dongmusa" to recite prayers while playing. The Wa people in Ximeng County have added a tongue-shaped resonant reed on each string, which not only increases the volume but also makes the tone softer and is also used to accompany the blowing of "Huangjiao [簧角]", in addition to accompanying folk songs.[17] The *Tongdeng* of Guangxi is popular among the Zhuang and Yao people in Nandan, Tian'e, and Donglan counties of Hechi City and is also a musical instrument for people in these places to have fun. The body of the instrument is similar to the above-mentioned Yunnan *Zhutongqin*, and the strings are also made of bamboo skin, usually four strings, arranged in minor third, minor second, and minor third from low to high, with small bamboo sticks as the fret. It is played at right angles to the body, with the head of the instrument facing the player's abdomen and with both hands striking the stick, creating a reverberation of fundamental tone and overtones.

Of course, because they strike strings with thin sticks, they belong to the struck zither. Considering the discussion of the inheritance between struck and bowed instruments in mainland China and the scope of this colloquium's focus on the transition from the bow to the zither, especially since the geographical location of these whole-tube zithers in China coincides with the distribution of these instruments in Southeast Asia, further research may be generated.

Figure 9 (left): Yunnan *Zhutongqin*,[18] cited in Wu Xueyuan, 2009, *Yunnan Ethnic Musical Instruments Catalogue*, Yunnan: Yunnan Fine Arts Press, 185; Figure 10 (right): Guangxi *Tongdeng*,[19] cited in Chen Chen, 2021, *Research on the culture of Guangxi Tian'e Tongdeng*, Master's Thesis of Guangxi Minzu University, 12. Printed with permission.

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[17] Wu Xueyuan. 2009. Yunnan Minzu Yueqi Tulu [Yunnan Ethnic Musical Instruments Catalogue]. Yunnan: Yunnan Fine Arts Publishing House, 185.

[18] Wu Xueyuan. 2009. Yunnan Minzu Yueqi Tulu [Yunnan Ethnic Musical Instruments Catalogue]. Yunnan: Yunnan Fine Arts Publishing House, 185.

[19] Chen Chen [陈晨], 2021, Research on the Culture of Guangxi Tian's *Tongdeng*, Master's Thesis of Guangxi Minzu University. Nanning.

In addition, the Miao people in western Hunan also have a similar instrument called "Zhu Tuo" [竹柝]. Although this instrument is also a whole tube in appearance and its strings are cut from the tube body, the strings are different from those of the whole-tube zither instruments in Yunnan and Guangxi in that the strings are not only bamboo skin but also bamboo strips with the skin cut deeply from the bamboo tube, resulting in a thin slotted opening in the tube body of the same size as the bamboo strips. Because the bamboo strips are thicker, they are tied with leather straps at both ends to prevent breakage, and a small wooden stick is embedded in each end of the bamboo strips as a fret. The *Zhu tuo* is used in Miao rituals, with a single tone and no melody, similar to a percussion, to accompany the chanting of the "divine words". Its sound can both summon ancestral spirits and drink away evil spirits.[20] Because of the opening of the resonant body under the bamboo strings, we may consider this instrument as a subtype of the whole-tube zither.

Figure 11: Miao *Zhu tuo* from Western Hunan, photo by courtesy of Wei Yukun. Printed with permission.

HALF-TUBE ZITHERS

In China, the representative half-tube zither is the Chen Yin (seven-stringed zither) of the Zhuang people. It is shorter than the northern Chinese *Ya Zheng*, with seven strings and a board that is almost 180 degrees in a semi-circle shape. The performer's left hand supports the bottom of the instrument, and the end leans on the performer's shoulder or chest, rubbing it with a horse hair bow. Since there is special research published by Chu Zhuo of Guangxi Arts University on this topic, this paper will not be expanded.

BOARD ZITHERS

Board zithers are widely distributed and have a similar appearance. However, from the point of view of musical instrument chronicles research, it is necessary to distinguish the differences in their microstructures and use these detailed differences as materials for further comparative research. From the materials collected and investigated by the author, the Chinese mainland board zither is divided into two categories according to the string structure: double course (two strings and one tone) and single course. The double course zithers

[20] Wei Yukun [魏育琨]. 2020. *Xiangxi Miaozu Yishi Yinyue Yanjiu* [A Study of Miao People Ritual Music in Western Hunan]. Beijing: Culture and Art Publishing House, 139.

are mainly concentrated in Hebei, Shandong, and other northern regions and can be found in Hebei Shifanyue [十番乐], Beijing Miyun Wuyin Dagu [密云五音大鼓], and other music genres. The single course category is mainly concentrated in the southern regions such as Henan, Fujian, Guangxi, and Yunnan and is found in Putian Wenshiyin [文十音], Jinjiang Shifan [晋江十番], and other types of music genres. It is interesting to note that the "*Ya qin*" used in the local Xiqu "Wu'an Pingdiao" [武安平调] is a single course instrument of one string to one tone, but its string sequence often has two adjacent tones of the same degree on the backbone of the tune, Sol and Do (see the paper by Prof. Cui Xiaona in this collection). This way, the two tones are played at the same time to harmonize the tone and increase the volume, which is similar to the function of the double course system.

Due to the variety of string configurations in this category, it is necessary to make a second level of classification using "string tensioning" as an important parameter so that single course board zithers can be divided into two categories: tethered and tuned pegs, with descriptions of the types of stretch strings.

Strings Stretched with Tethers

In Wu'an area of Hebei, there is a folk saying that "It's easy to play *Ya qin*, but difficult to set the string". The way of stretching strings also reflects the local people's wisdom about this instrument. The different types of strings also influence the difference of playing styles. In the single course board zithers, the strings are fixed by the cotton cord, which is mainly used for the Korean *Ajaeng* and the *Ya qin* in Hebei Wu'an Pingdiao. In Hebei, the tensioning way is that one end of the string is tied in the hole in the lower part of the headstock, and the other end is tied with a thin string so that it is close to the pitch of the string, and then the extra thin string is pinned to the upper part of the instrument as decoration. In Korean *Ajaeng*, the thin dark-brown silk or cotton string is called "dyed tail" [染尾], and the dyed tail is tied between the two large holes of the string at the end of it. Since the strings of *Ajaeng* are mostly silk strings, the tension force of the string is enough to hold the silk strings. This creates the darker and hoarser tone of *Ajaeng*.

Figure 12: Hebei Wu'an *Ya qin*; [21] Figure 13: Korean people *Ajaeng*. Printed with permission.

[21] Xiao Mei [萧梅], Rong Hongzeng [荣鸿曾], and Huang Yanfang [黄燕芳]. 2003. *The Musical Arts of Ancient China*, Hong Kong: The University of Hong Kong Museum of Fine Arts, 112-113.

Figure 14: Firmin Laribe Archive "The Chinese Video Record of Lalibe" (1900–1910). Photo quoted from the website https://fca.huma-num.fr/s/fca/item-set/151. (2/1/2022). Printed with permission.

In the past, in the Wu'an area of Hebei, *Ya qin* was mainly played with the Erxian [二弦] and the Tupipa [土琵琶]. The Erxian had a sharp and thin sound, while the Tupipa had a dull and rough sound, and *Ya qin* was "glued" together with a coherent sound to make the ensemble sound more harmonious and fuller. The same kind of instrumental ensemble was also seen in Hebei, in the late Qing Dynasty video collection "The Chinese Video Record of Lalibe", where we see the use of a double course board zither with a soprano instrument such as the Jinghu and a bass instrument such as the Pipa.

Strings Stretched with Pegs

In addition to the tether, another important way of fixed strings is with pegs. Unlike the metal string pegs of the Yangqin and *Zheng*, the string pegs of *Ya Zheng* are almost made of wood, and the position of the pegs varies from place to place. In the double course board zither, the position of the pegs is relatively single, at the outer edge of the body. In this paper, we will discuss more about the different positions of the pegs in the single course. According to the position of the string pegs, the author classifies *Ya Zheng* instruments into four categories.

1) "The string pegs are exposed on the instrument". This type is represented by Henan Wugang *Ya Zheng* [武钢轧筝] and Shanxi Hejin Shuoshu [河津说书] (storytelling) Fu Qin, both of which have their string pegs inserted vertically at 90° into the end panel. The way of string tensioning of Henan Wugang *Ya Zheng* is very similar to the way of string tensioning of 16-string *Zheng* in Qing Dynasty, and the string pegs are in the shape of V from the end of the instrument to the body. The Fu Qin of Hejin has two parallel pegs of six strings at the end of the instrument, and the strings are tied to it in a staggered manner.

If we search the Internet, we will see a key narrative about the Wugang *Ya Zheng* in Henan Province: "a living fossil of musical instrument". When this instrument comes into the public eye, the local people often describe it as "a sound from 1500 years ago". According to Guo Jiuzhou [郭九洲], the municipal intangible cultural heritage inheritor of Wugang *Ya Zheng*, this instrument originated from his ancestors' begging from Hongdong County, Shanxi Province, to Yuanmen Village, Yangzhuang Township, Wugang City, in the late Ming and early Qing dynasties to escape from the war, and settled here to create the Guo's family music troupe. After escaping from the wandering life, Guo's family music troupe attended temple fairs and participated in regular performances, performing ancient legends, myths, classic stories of emperors and sages, and folk tales of punishing evil and promoting good. The identity and status of the Guo family musicians changed, and they were respected and revered by the locals. In the present day, the Guo's family music troupe is considered a local family of professional folk musicians, undertaking the dissemination of local music culture. Out of the awareness of their status as a folk music family and the protection of "intangible cultural heritage", this *Ya Zheng*, which has been passed down to Henan, the archaeological province of China and the cultural center of the Central Plains, has maintained its almost unchanged form and style of playing. Therefore, the Guo's *Ya Zheng* has been played to this day. Therefore, Guo's *Ya Zheng* has been promoted as a "living fossil" to this day.

Figure 15: Wugang *Ya Zheng* in Henan Province, as cited in Han Zhimin, 2012, *A Report on the Musical Culture of the Guo's Ya Zheng, Henan Province*, Master's thesis of Henan Normal University, 29. Printed with permission.

2) "The string peg is concealed under the instrument". This type is represented by the Putian *Zhengtouqin* (pillow-shaped zither), and its string pegs are similar to that of the Shanxi Hejin Fu Qin, in that the string pegs are also fixed to a specific panel, but the *Zhengtouqin* hides it under the instrument, and it is inserted at an angle perpendicular to the base board of the end of the qin so that the surface of the body looks neater. This is also similar to *Ya Zheng* in many historical images. Putian *Zhengtouqin* has a very rich historical resource. The history of population migration in Putian has created a culture of integration with Wu-Yue [吴越] and the Central Plains. The Qing dynasty's Putian County Records contain an exhaustive list of the various instruments used in ritual music and the old and new music played. It not only makes people marvel at the strict ceremonial rituals but also makes people further think that the people of Putian have reached a considerable degree of immersion in music.

Figure 16: Shanxi Hejin Shuoshu Fu Qin.[22] Printed with permission.

The *Zhengtouqin* is used in the local instrumental ensemble "Wenshiyin", which is composed of Sheng, Xiao, Nanpipa, Sanxian, Chihu, Laohu, and *Zhengtouqin*, as well as Yunluo [云锣], Paigu [拍鼓], and Danpigu [丹皮鼓], and belongs to the "Xiyue" type recorded in historical documents. The *Wenshiyin* has a set of rules and regulations in the discipline, only to accept good-looking, smart, and intelligent children of rich families as apprentices, and the *Wenshiyin* performance to wear the costumes of ancient musicians. The *Zhengtouqin* in Putian *Wenshiyin* also has a deep history; it continues the name of the *Zhen Zhen* [箏] in Song dynasty, and the word "pillow [枕]" in the Putian folk name is also similar to *Zhen* (tcin [24]), and since Chen Yang, the author of *Yueshu*, who wrote about *Ya Zheng* in detail in the Song dynasty, was a native of Min (Fujian), if Yang Chen's account is related to the situation in Fujian at that time, *Ya Zheng* was already in circulation in Fujian before 1103 AD at the latest.

Figure 17: Putian *Zhengtouqin*, photo by Xiong Manyu. Printed with permission.

3) "The string pegs are inserted on both sides of the head of the instrument". Taking *Ya Zheng* in the "Shifanyue" of Xiaoxia Village, Jinjiang, Fujian Province, as an example, it has the string pegs inserted on both sides of the tail at a parallel angle, which is shaped like shrimp legs. Therefore, it is also called Xiagu [虾姑] (Mantis shrimp) Qin by the local people, which is the recreation of *Ya Zheng* in the local context. With the natural advantage of many fields by the sea and the vast land brought by the construction of fields around the sea, the people of Xiaoxia Village, Dongshi County, Jinjiang, have actively developed agriculture and fishery, making Xiaoxia famous as the "town of fish

[22] Xiang Yang [项阳].1999. *History of Chinese Bowed String Instruments*. Beijing: International Culture Publishing House, 4.

and rice". In connection with their food habits, the locals call this instrument a Xiagu Qin. The style of the stringed pegs, like the tail of a shrimp, was also loved by the locals. On the other hand, since the Jinjiang Shifan, which used to be played mostly in line, had the strings on the side, the player could adjust them in time if they went out of tune during the performance. We learned during an interview in Xiaoxia Village that the village's "Shifanyue" has been passed down since the Qing Dynasty, and although it was named a municipal intangible cultural heritage in 2009, the music seems to exist in name only, and the band is now mainly playing and passing down Nanyin. However, the band has a complete set of instruments and materials, from which we can see that *Ya Zheng* was played in combination with Pipa, Sanxian, Erxian, Gaohu, Erhu, Di, Guan, Sheng, and Banhu, and there are also five pieces of light percussion: Liaogu [辽鼓], Paiban [拍板], Sikuai [四块], Shuangling [双铃], and Xiaojiao [小叫]. This corresponds to the historical account that *Ya Zheng* was used for Xiyue and Shifanyue. The same situation also occurred in Hebei Shifanyue.

Figure 18: *Jinjiang Xiagu Qin*, photo by Xiong Manyu. Printed with permission.

4) "The string peg is reformed inside the box". This kind is a contemporary improved instrument. Take the modified Putian *Wenzhenqin* for example, which is derived from the aforementioned *Zhentouqin*. The reform of the *Zhentouqin* began in the 1980s and started with the change of name. At that time, Huang Wendong and Huang Fu'an, researchers at the Putian County Culture Museum, combined the names of *Wenshiyin* and *Zhentouqin* and named the improved instrument *Wenzhenqin*. Nowadays, not only does the name of the instrument emphasize the elegant meaning of "wen" but also the shape of the strings is based on the contemporary *Zheng*. Like the history of the reform of *Zheng*, contemporary *Zheng* string pegs are placed in special cases to avoid interference with the player's sight on one hand and to protect the string pegs and board on the other hand as well as to reduce the oxidative erosion caused by external factors such as air and moisture, effectively prolonging their service life and playing a certain beautifying role for the overall appearance. At the same time, the peg of this instrument has been changed to a metal peg. In the reform of the instrument, the metal peg can generate more tension as the strings are changed from silk to steel. It also makes the instrument sound higher and cleaner. Therefore, the change of hiding the exposed string pegs inside the box is not only a change of peg

position but also a change of the instrument and its tendency to move away from folklore and toward professionalism.

THE BOWED ZITHER IN CULTURAL CHANGE

Through the survey of the distribution and types of bowed and struck zither instruments in mainland China, especially the historical retrospect and the current state of *Ya Zheng*-like instruments, it is easy to see the richness of these instruments and the changes they have undergone along with the historical process. The richness of these instruments suggests that we should not generalize one instrument recorded in the literature to all similar instruments when we study this category. In other words, if we only use the "*Ya Zheng*" in the historical records to summarize the current distribution of bowed zither instruments in mainland China, we will not be able to discover and compare the commonalities and differences between them in terms of form, performance and play, the types of music they belong to, and the functions of the instruments, as well as their implied relationships, changes, and ecological diversity. Therefore, the first step is to describe and record the instruments at a microscopic level in the way of organography in order to find detailed materials to support the historical connection between the instruments.

From the perspective of historical changes, the struck board zither instruments can be proved not only by the "Zhu" of the old events of the Warring States recorded in Western Han Dynasty documents, such as *The Historical Record*s [史记] (104–90 BC), but also by the physical objects unearthed in the Western Han Dynasty. This is the reason why the academic circle has placed the *Zhu*, a struck board zither instrument, in the place of the historical origin of the bowed lute and other late bowed zither instruments. Why did the *Ya Zheng*, a musical instrument with bowed strings, which has been recorded since the Tang dynasty, suddenly disappear from the written records at the end of the Qing dynasty, although it flourished in the Song dynasty and then in the Ming and Qing dynasties? However, if it is said to be lost, people found its existence in folk Xiqu[23] and ensembles in the process of collecting and surveying traditional music after the 1950s. Therefore, the so-called lost music was perhaps only due to the social changes in the late Qing dynasty. With the disintegration of the imperial court and the gentry, this instrument and its accompanying musical genres, such as the Shifan, also passed from the court or the gentry to the folk. In addition, from the viewpoint of musical performance, *Ya Zheng*, the representative instrument of bowed board zither,

[23] The traditional Chinese Xiqu accompaniment is divided into Wu Chang [武场] and Wen Chang [文场], Wu Chang is consisting of percussion instruments and Wen Chang is a general term for orchestral instruments other than Wu Chang.

is mainly an ensemble instrument. From the configuration of the instruments in the ensemble and their musical style, it is related to the "Xiyue" which is contained in the literature. The style of Xiyue, on the other hand, is too gentle and elegant, and the volume is weak, which is not in line with the esthetic pursuit of "serving the public" and uplifting the spirit of contemporary China in a particular historical period. Since the middle of the 20th century, the instrumental music and the orchestra of Xiqu have been facing the demand of expanding the volume and range as required by the stage, professionalism, and artistry. The author went to Hebei Wu'an in January 2002 to investigate the *Ya Zheng*, and the local people said that *Ya Zheng* is mainly used for the accompaniment of the "Wenchang" [文场] of Wu'an Pingdiao. The traditional Wenchang mainly used *Erxian* and *Ya Zheng*. *Erxian* originally used the old silk strings, which had a high-pitched sound and strong penetrating power, while *Ya Zheng* had a darker and smaller tone, which was wrapped around the Erxian to make the sound softer. However, in 1953–1954, the accompanying band of Xiqu had added Sheng, Erhu, Zhonghu, Cello, Dizi, and some other instruments to enrich the acoustics and increase the musicality. So, *Ya Zheng* encountered three difficult ensemble problems. The first is that the volume is so low that it is basically inaudible in the newly introduced orchestra; the second is that it uses a pentatonic scale, lacking fa and si; and the third is that *Ya Zheng* has one string and one tone, which is difficult to transpose and cannot be adapted to modern compositions, so it has to be eliminated by contemporary Xiqu bands.

Therefore, with the change of time, *Ya Zheng*-like instruments either become the object of cultural heritage protection or join the reformistic demands. In this paper, we will give two examples of the reform issue.

THE RADICAL REFORM OF PUTIAN *ZHENTOUQIN* TO *WENZHENQIN*

The reform of *Zhentouqin* in Putian Wenshiyin began in the 1980s. It was similar to the reform of other instruments, and one of its important objectives was instrumentalization – changing from an ensemble or accompanying instrument to a solo instrument. The *Wenzhenqin* has been changed from the *Zhengtouqin* in the following aspects:

- The size of the original *Zhentouqin* is retained.
- Two f-shaped sound holes were dug in the middle of the top board, and two sound posts were installed inside.
- Changing the bridge from single to whole, which is installed in the middle of the instrument.
- Installing fine-tuning of the erhu.

Figure 19: A photo of a performance of the *Wenzhenqin* (player: Huang Fu'an), photo by Xiong Manyu. Printed with permission.

In terms of playing, unlike the original *Zhentouqin*, the reformed *WenZhenqin* was not played flat, but with the instrument placed vertically between the legs and the upper part of the instrument resting on the left shoulder. The core of this change, as reformer Huang Fu'an [黄福安] said, was to "free the left hand!" This enables the original instrument with one string and one tone to not only play the tone by pressing but also learn from other bowed instruments in playing methods. For example, Huang Fu'an himself was an erhu player, so he borrowed many techniques from the erhu, such as staccato bowing, jumping bowing, and left hand pressing, as well as the plucking, overtones of the *Zheng*, and finger rotation in pipa, and developed his skills. In the 1990s, Huang Fu'an, Li Shangqing [李尚清], and other Putian performers and composers composed more than 10 pieces with sense of modernity for this instrument. These also include large orchestra concertos like "Sea-Goddess" [海女神] and "Haixia Liushang" [海峡流觞]. In addition, Huang Fu'an has also developed a set of teaching materials for the instrument, and the teaching mode is similar to that of modern folk music teaching, from "basic techniques to etudes to compositions", but the proportion of traditional music is very small. This shift not only recreated the context for the *Wenzhenqin* but also gave it a certain degree of recognition and popularity in the outside world, but the native folk Wenshiyin no longer owns this instrument (Figure 19).

Localization and Recurrence: Korean *Ajaeng* and Reformed Contemporary *Ya Zheng*

This case is related to the localization of the Korean *Ajaeng* and recurrence of the reformed *Ya Zheng*. In the ninth year of Goryeo Yejong (1114 AD), a large number of Tang musical instruments came to Korea. At that time, in addition to the Tang musical instruments of Emperor Wenzong's time, new musical instruments such as *Zheng*, *Konghou*, and *Xiao* were introduced to Korea from the East. From the above-mentioned historical data, we can conclude that there

were no bowed instruments among the many Tang instruments that were introduced to Korea during the reign of Wenzong and Yejong. After Yejong, the local people created a Korean national instrument, *Ajaeng*, based on the Chinese *Zheng*.

The structure and illustration of *Ajaeng* and the detailed method of tuning the strings are recorded in Volume 7 of the 1493 music text *Yuexue Guifan* [乐学轨范] compiled by Korean Cheng Qian [成俔].[24] The text states that this instrument is the same as the 15-stringed Da *Zheng*, but it is smaller in size and has seven strings. The first string is slightly thicker, and the seventh string is thinner and played with peeled sandalwood sticks coated with turpentine (Figures 20 and 21).

In 1965, Kim Ponggi [金凤基], a Korean musical instrument maker, improved the seven-stringed *Ajaeng*, reduced its size, and made a nine-string Sanjo [散调] *Ajaeng* and later increased the number of strings to make a 10-stringed improved *Ajaeng*, which has been used until now. It has since then been used in both Korean Yayue and Suyue (court music and folk music).

The Chinese *Ya Zheng*, which was transformed into *Ajaeng*, underwent a long process of localization in the Korean peninsula and showed a great difference from the Chinese *Ya Zheng*.

Figure 20 (left): A drawing of an *Ajaeng*.[25] Figure 21 (right): Korean modified *Ajaeng*.[26] Printed with permission.

First of all, the board has an "extra layer" in the frame (Figure 22). The resonant vibrating panel of the instrument is overlaid with an upper sound board, and some small sound frets are supported between the panel and the upper sound board to bear the pressure of the strings and the bridge and to

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[24] Xu Haizhun [徐海准]. 2009. *Yuexueguifan*. Research on the Illustrations of Musical Instruments in the Tang Dynasty, Shanghai: Dissertation of Shanghai Conservatory of Music.

[25] Xu Haizhun [徐海准]. 2009. *Yuexueguifan*. Research on the Illustrations of Musical Instruments in the Tang Dynasty, Shanghai: Dissertation of Shanghai Conservatory of Music,106.

[26] Peng Liying [彭丽颖]. 2022. Ya zheng de Fuyuan Yanjiu [A Study of the Restoration of Ya zheng]. *Musical Instruments*, *1*:12-15, 17.

transmit the string vibration energy to the resonant panel. When the bridge is standing on the upper soundboard, the panel can vibrate fully through the sound posts between the two panels. At the same time, the space created between the panel and the upper soundboard may create auxiliary resonance and acoustic reflection, which helps increase the intensity and volume of the sound.

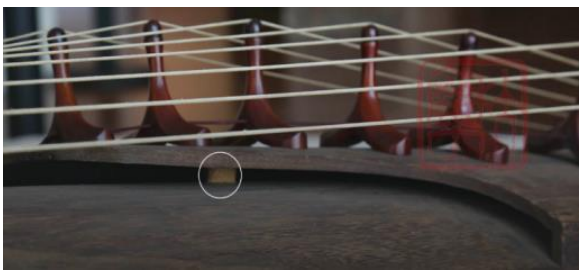

Figure 22 (left): The sound frets between the top and the upper soundboard of *Ajaeng* for support and transmission.[27] Figure 23 (right): The inner yueshan of the Korean *Ajaeng* is raised. Printed with permission.

At the same time, because of the additional upper soundboard of *Ajaeng*, a higher inner yueshan [岳山] was added to the lower panel accordingly to fit the height of the bridge. The hollowed-out bottom surface of the inner yueshan is beautiful and facilitates the vibration of the panel. The original yueshan is kept at the head of the instrument because it retains the element of "*Zheng*", and it is also beneficial to the distribution of the force on the strings by using it as a pivot point for the transition to the inner yueshan. The two yueshan support the string at such an angle, which also facilitates the stability of the inner yueshan.[28]

In addition, the strings of *Ajaeng* are directly rested in the long string groove at the top of the bridge, and there is no hard inlay, so the "robustness" of the strings and the roughness of the sound of *Ajaeng* are highlighted. The rough sound of *Ajaeng* is also related to the bow used, and the stick is similar to the historical record that "played with peeled sandalwood sticks coated with turpentine", thus preserving the vicissitudes of "stick scraping".

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[27] Chinese Music Guide – Chinese Traditional Musical Instrument Online Museum special topic "Gongzouzhenxian Guyinong [弓走筝弦古意浓], the bows and strings of the Zheng have a rich ancient meaning – Appreciation of Ajaeng at the Museum of Oriental Musical Instruments of Shanghai Conservatory of Music, at http://www.zhongyuetujian.com/index.php/ articlx?id=207, last accessed 6th February, 2023).

[28] Ibidem

Figure 24: The Zhenxian [枕弦] (the string in the bridge) part of the Korean *Ajaeng*. Printed with permission.

In 2020, with the support of Beijing Musical Instrument Research Institute, Peng Liying, a Korean researcher of this institute, made a seven-stringed *Ya Zheng* and a nine-stringed *Ya Zheng* based on the dimensions of the Tangyue [唐乐] *Ya Zheng* as recorded in the *Yuexue Guifan* and the measurement method of the dynasty at that time and improved the size of the Tangyue *Ya Zheng*.

When the author interviewed the reformer Peng Liying, we learned that during her study in South Korea, she carried out a detailed investigation on *Ya Zheng*, which derives from the musical instrument *Ya Zheng*, and carried out the restoration of the Chinese *Ya Zheng* with reference to the historical records and the current inheritance of the Korean *Ajaeng*, in the shape of reference to the improved *Ya Zheng*, that is, on the left side to add a higher inner yueshan, while on the right to add the same height of the upper soundboard. This also increases the height between the panel and the strings, making it easier to play back and forth.

Figure 25: Improved nine-string small *Ya Zheng*.[29] Printed with permission.

The main purpose of the Beijing Musical Instrument Research Institute to improve *Ya Zheng* is to make up for the lack of bass instruments in Chinese folk orchestral music at present. The seven-stringed big *Ya Zheng* is mainly for bass sound, and the range is lower, and it can reach the range of classical bass after testing. The nine-string small *Ya Zheng* is mainly for bass tone, and

[29] Peng Liying. 2022. Ya zheng de Fuyuan Yanjiu [A Study of the Restoration of Ya zheng]. *Musical Instruments,* 1:12-15, 18.

it can reach the range of cello after testing. The strings are made of special steel strings with special processing according to the ancient principle of twining strings. It can also be seen that the Song dynasty *Ya Zheng*, which came to the Korean peninsula, maintains the form of the Tang and Song dynasties, so we can also explore the former appearance of *Ya Zheng* and its possible role in the present-day folk orchestra through the restoration of *Ya Zheng* by Peng Liying in Beijing.

Final remarks

In conclusion, the bowed and struck zithers have a rich variety of types and developments in China and East Asia. By delving into each case, the interaction between the instrument and the people, the social environment, and the cultural ecology can be fully felt. The cultural expressions of this instrument in different regions show their initial tensions through different instrument forms and rich performance patterns, and the cultural connotations and the stigma of the times in different regions also highlight the flexibility and tolerance of a musical instrument in the midst of changes. It creates new meanings in different contexts and collides with different cultural ecologies to create new expressions.

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PATTERNS OF YA ZHENG INSTRUMENTS IN NORTHERN CHINA

Cui Xiaona [崔晓娜][1]

ABSTRACT

Ya zheng [轧筝] is a type of bowed (in Chinese, it is called "ca zou") musical instrument. It remains in northern China and has some nicknames in some regions. It also has many regional patterns and forms in terms of shape, strings, holding modes, tune-up and scale arrangement, playing technique, and musical styles. The traditional *Ya zheng* from the northern region, namely, the "*Cuo qin*" [搓琴] from qingzhou in Shandong, the *Ya zheng* from East Han Village in Yixian County in Hebei, the *Ya zheng* from Wu'an Ping Diao [武安平调] (it is one of the traditional Chinese Xiqu[2] and belongs to the local Xiqu in Hebei Province) in Hebei, the "*Fu qin*" [拂琴] from Hejin in Shanxi, and the *Ya zheng* from Wugang in Henan have been selected. At the same time, the mode analysis of these five cases of *Ya zheng* and the specific use of music, combined with the historical literature of the *Ya zheng* pattern, through the music form of discrimination is used to explore the *Ya zheng* in the northern region of different types of structure and music form characteristics.

KEYWORDS

Yazheng, Music history, Case studies, Northern China, Shandong

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[2] Xiqu comprises what is meant in other contexts folk music and folk expressions of melodies.

Cui Xiaona [崔晓娜]. 2023. Patterns of Ya Zheng Instruments in Northern China. *Musical Bows and Zithers along the Great Silk Road*. Edited by Xiao Mei and Gisa Jähnichen. Berlin: Logos, 33-48.

QINGZHOU *CUO QIN* IN THE PROVINCE SHANDONG

Cuo qin is an ancient musical instrument that has been handed down in the areas of qingzhou, Linzi, Guangrao, and Shouguang in Shandong Province. In the folklore, there are various names for *Cuo qin* because its body is half-cylindrical, similar to half of the windlass head, a common water-drawing tool; the local people called "half of the windlass head"; because of the bowing method related to the performance of "striking", it is also called "Da qin". Now it is mainly popular in the qingzhou area of Shandong Province.

The first excavation of the Shandong *Cuo qin* was in 1957, when a folk artist from Weifang area, Zhao Caiyun, played with the *Cuo qin* at the first concert performance held in Shandong Province and attracted attention, and since then, it has received extensive attention from the government and academic circles.[3] The fact that we can still learn about this traditional *Cuo qin* art is also mostly related to these series of research studies.

Figure 1: Zhao Caiyun and members of the band. Printed with permission.[4]

According to the literature, "Zhao Caiyun (1880–1960), formerly from Lv village, Guangrao County, Shandong Province, later moved to the qingzhou area. He loved music since childhood. He was especially good at singing and playing the *Cuo qin*."[5] This photo (Figure 1) is a group photo he took with his

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[3] Zhou Ming. 2014. *Cuoqin Fazhanshi ji Chuancheng Yanjiu* [A Study of the Development History and Heritage of the Cuo qin]. Beijing: People's Music Publishing House, 29.

[4] Ibidem

[5] Zhang Fengliang. 1994. The Integration of Chinese Folk Instrumental Music,

band members at a local photo studio after the 1957 concert. This photo is not only the sole one he left to his descendants but also the only physical object to understand the traditional Shandong *Cuo qin*.

The traditional Shandong *Cuo qin* is a multi-string, multi-yard instrument, and it has two strings with one yard[6]. The body of the instrument is rectangular, about 68 centimeters long, with a 15 centimeters wide head and 12 centimeters wide tail. The surface of the instrument is semi-circular, the arch is 10 centimeters high, and it is made of half of the Chinese parasol. The bottom plate is straight and has two sound holes. The material used is a Chinese parasol board with good pronunciation and vibration, and the frame of the instrument body is mixed wood. There are iron strings and pegs on the head and the tail of the zither, 13 strings are placed between the head and the tail, and double holes are placed on the top of the movable frets to keep the strings. There are 26 strings in total, and the strings are arranged along the shape. The bow is made of sorghum straw, which is the most common material. The bottom two sections of the bow are taken, the skin is scraped off, and the bow is coated with rosin or percussion strings when playing. The bow is about 50 centimeters long.

The top of the instrument is semi-circular, with a 10 centimeters high arch, and is made of half of paulownia wood with grooves. There are 13 yards between the head and tail of the instrument, and the top of the instrument is pierced by two holes, with 26 strings in total (two strings with one yard); the yards are arranged in a curved shape, and most strings are made of silk. The bow is made of sorghum straw, the most common material among folk musicians, the lower two sections of the sorghum straw are scraped off the skin and rubbed with rosin or struck when playing, and the bow is about 50 centimeters long.[7]

Traditionally, the Shandong *Cuo qin* has 26 strings with two strings and one yard, and each tone is double-toned, which is actually a 13-string compound string. The range of the *Cuo qin* is from small octave group g to three-line octave group c3, and the strings are set in a pentatonic scale, with the following list of tones.[8]

Shandong Volume (Volume II). Beijing: China ISBN Center. Unpubl. ms., 1877.

[6] The term yard refers here to the triangular movable bridge of each pitch that also can by used for two strings.

[7] Zhang Fengliang. 1994. The Integration of Chinese Folk Instrumental Music - Shandong Volume (Volume II). Beijing: China ISBN Center. Unpubl. ms., 1484.

[8] Ibidem

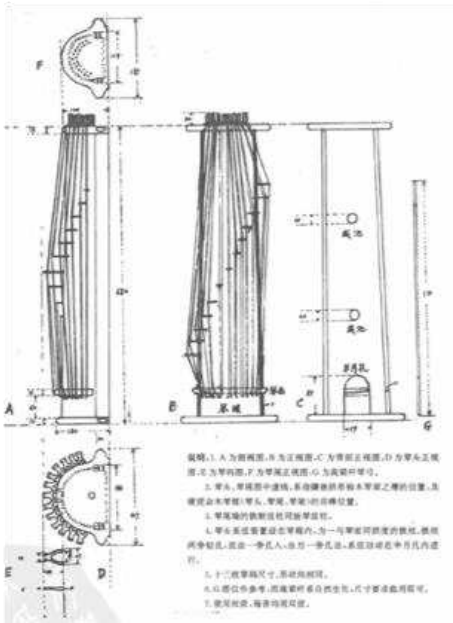

Figure 2: Early Form of Shandong *Cuo qin*.[9]

Figure 3: Zhao Xingtang's restoration of the traditional Shandong *Cuo qin*.[10]

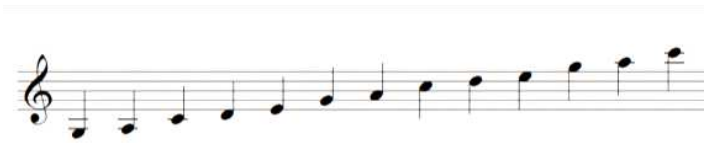

Figure 4: Shandong *Cuo qin* tuning (in the key of C, for example), created by the author.

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9 Zhang Fengliang. 1994. The Integration of Chinese Folk Instrumental Music - Shandong Volume (Volume II). Beijing: China ISBN Center. Unpubl. ms., 1484.

10 Zhao Xingtang. 2022. Thousands of years of unbroken strings - and his Qingzhou Cuo qin. Accessible via http://www.woodculture.cn/content.cfm?id=704, last visited on 10th November 10, 2022.

When playing the Shandong *Cuo qin*, the left hand is inserted into the half-moon-shaped hole at the bottom end of the headstock and the tail at the other end is placed on the left shoulder side, while the right hand holds the bow and rubs or strikes the strings. During the performance, the left wrist turns the body of the instrument as the right-hand plays, which is also called "sending the strings to meet the bow".[11] This way of bow movement is directly related to the setting of the surface of the instrument in a curved direction.

The characteristics of the playing technique of the *Cuo qin* are mainly the scraping and striking of the bow. When playing, the soprano pole touches the strings, and the scraping and striking are used to pronounce the sound, which has a unique tone. Due to the high number of strings, the wide range of sound, and the fact that the rotation of the wrist can well match the bowing, the sound is unique when playing arpeggios and double tones, and it has its unique effect on the treatment of the music.[12] Nowadays, the main use of horsetail bowing is that it still uses sorghum straws while striking.

In the past, the Shandong *Cuo qin* was the accompanying instrument for the Shandong talking and singing music, Zaomu Gangzi Luantan [枣木杠子乱弹] (it belongs to the category of traditional folk art）, which could be played solo or accompanied, and the repertoire often included "Yuanyangkou" (mandarin duck buckle), "Sidajing" (four major scenes), and other Ming and qing dynasty popular songs.[13] Nowadays, folk songs adapted from accompaniment, such as "Yimeng Mountain Minor", are mostly scraping with the horsetail bow. There are also traditional talking and singing songs, such as Kuaibanshu (story recited to clapper): "My family is so sad in my room, my eyes are full of tears, I complain about my father and mother, what kind of husband did they find for me? His ears are missing, his head is hairless and shiny, his face is pockmarked and his eyes are squinting. Alas, the crooked mouth is also with a stammer. Alas, the crooked mouth is also with a stammer, Alas."[14] The same person sings and plays, and the performer talks while using the bow of *Cuo qin* to hit the head of the *Cuo qin* to play.

Since 1981, the traditional Shandong *Cuo qin* has been reformed by musicians in qingzhou City on the basis of maintaining the original characteristics of the

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[11] Zhang Fengliang. 1994. The Integration of Chinese Folk Instrumental Music - Shandong Volume (Volume II). Beijing: China ISBN Center. Unpubl. ms., 1485.

[12] Xiang Yang. 1988. Huashi Yueqi Cuoqin de Qishi [The revelation of the old instrument "Cuo qin"]. Musical Art, 4:4.

[13] Zhou Ming. 2014. Cuoqin Fazhanshi ji Chuancheng Yanjiu [A Study of the Development History and Heritage of the Cuo qin]. Beijing: People's Music Publishing House, 80

[14] Zhao Xingtang. 2022. Thousands of years of unbroken strings - and his qingzhou *Cuo qin*. Accessible via http://www.woodculture.cn/content.cfm?id=704, last visited on 10th November 10, 2022.

Cuo qin, such as changing 13 strings to 17 strings in order to expand the sound range, changing silk strings to steel strings in order to increase the volume and have a pure tone, and meanwhile changing sorghum straw to horsetail bow in order to increase the bowing skills.[15] In the 21st century, some scholars, such as Zhou Ming of Shandong Arts Institute and Zhao Xingtang, the grandson of Zhao Caiyun, the representative figure of intangible cultural heritage of "Shandong *Cuo qin*", are still working on the restoration of the *Cuo qin* instrument and the inheritance of the *Cuo qin* art.

YA ZHENG IN EAST HAN VILLAGE, YI COUNTY, HEBEI PROVINCE, CHINA

It is one of the 10 instruments of the early Wenshifan [文十番] of East Han Village, and the orchestra of East Han Village is in the same vein as the ensemble music of the banquet department of court in the Qing dynasty.

Ya zheng in East Han Village is made with two strings and one fret and multiple strings and frets. The body is rectangular in shape, about 49 centimeters long, 6.5 centimeters wide at the head, and 3.3 centimeters wide at the tail. The surface of the zheng is made of Chinese parasol wood, with a semi-circular shape and an arch height of 7.6 centimeters, and the bottom board is straight with a sound hole and two holes for holding the zheng; the end of the zheng is equipped with bars (qin zhen) made of iron, there are 12 yards between the head and the end of the zither, the top of the zheng is pierced with two holes, the two strings and one yard have a total of 24 strings, and the frets are arranged in a slanting direction. In the past, the strings used to be silk strings; now they are steel strings, and the material of the bow is horsetail.[16]

Figure 5: *Ya zheng* in East Han Village, photo by the author.

[15] Zhang Fengliang. 1994. The Integration of Chinese Folk Instrumental Music - Shandong Volume (Volume II). Beijing: China ISBN Center. Unpubl. ms., 1485.

[16] The shape of the instrument was examined by the author in 2001.

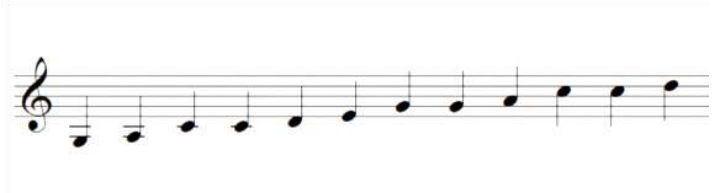

Figure 6: Tuning of the *Ya zheng* in East Han Village, photo by the author.

Ya zheng in East Han Village is a two-stringed, one-yard instrument with 24 strings and 12 yards. Every two strings are set to one tone, each tone is doubled, and the practical tone is 12 pitches. The score of East Han Village Shifan Music is a gongche notation; the lowest note is "he [合]", and the pitch of "he" is ^{b}E. The relationship between the score and the pitch of the *Ya zheng* is as follows.

This is the president of East Han Village Shifan Association, who was the music teacher of East Han Village Primary School and the secretary of East Han Village Branch and was selected as the inheritor of the representative project of intangible cultural heritage of Hebei Province "Yi County East Han Village Shifan Ancient Music" in 2021. According to Yu Xueshen (1949–) and his understanding[17], the style of holding the *Ya zheng* is flat, and the player can sit or stand in a sitting position. When playing, the player holds the Zheng in his left hand with his thumb and forefinger, puts the face of the Zheng upward on his left arm and holds the tail of the Zheng against the lower part of his left shoulder to keep the body of the Zheng stable, and rubs the strings with the horsetail bow in his right hand. Since the 1980s, the *Ya zheng* is mostly used as a substitute for the Gu Zheng in the Wenshifan band.

Figure 7: Demonstration of holding the *Ya zheng* in East Han Village, photo by the author.

[17] Yu Xueshen. 2022. Talk about Ya Zheng playing. N.d., n.p. unpublished.

HEBEI WU'AN PING DIAO *YA QIN*

Wu'an Ping Diao is a local Xiqu in Hebei Province. Wu'an Ping Diao *Ya zheng*, also called *Ya zheng qin*, is mainly prevalent in Handan, Hebei Province, northern Henan Province, and southeast Shanxi Province. It is one of the

main accompanyiing instruments in the early days of Wu'an Ping Diao.

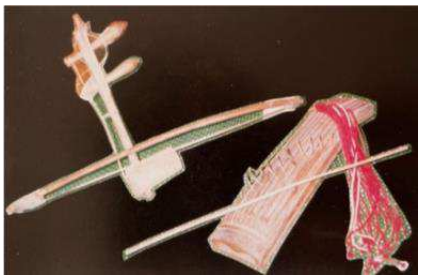

Figure 8 (left): The main accompanying instruments of early Wu'an Ping Diao: *Er xian* and *Ya qin*.[18] Figure 9 (right): Wu'an Ping Diao *Ya qin* in the late Qing dynasty and early Republic of China.[19]

This *Ya qin* was made in the late Qing dynasty and early Republic of China and is now in the Music Research Institute of the China Academy of Arts. According to the book *Chinese Xiqu Catalogue - Hebei Volume*, the total length of the *Ya qin* is 60 centimeters and the width is 13 centimeters, the top is convex and curved, the middle is 6 centimeters thick, the sides are 3.5 centimeters thick, and the back is straight with a round hole of 5 centimeters diameter in the middle. The body is made of Chinese parasol wood and is similar in shape to the *Ya qin*. There are string tuning devices at both ends of the instrument, and the string structure is fixed from the lower saddle to the bottom. There are ten old silk strings, one of which is fixed to the bottom and the other is fixed to the tuning device at the top end with a string. The strings are supported by jujube wood branches between the strings and the top, which are "herringbone" shaped, about 5 centimeters high, with a round hole of about 0.5 centimeters at the top of the herringbone, through which the strings pass to prevent them from sliding, and which can be moved to adjust the pitch and resonate with the top of the instrument. The stalks are made of the uppermost section of sorghum stalks, and the glossy side is stripped and smeared with rosin to enhance the friction. (Ma Longwen, 1993:564). Later, it is changed to horsetail bow.

The tuning height of the *Ya qin* is the same as the tuning height of the singing voice of Wu'an Ping Diao. Before the Xiqu reform in 1955, the tuning height

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[18] Ma Longwen. 1993. Chinese Xiqu Catalogue - Hebei Volume. Beijing: China ISBN Center. Unpubl. ms.

[19] Liu Dongsheng. 1987. Chinese Musical Instruments. Beijing: Light Industry Press, 262-263.

was C, and later, it was lowered to ^{b}B to facilitate singing. The *Ya qin* is set in the traditional pentatonic scale with 10 strings, which are set as follows: sol, la, do, do, re, mi, sol, sol, la, do (Liu Dongsheng, 1995:262).

According to the Chinese Xiqu Catalogue - Hebei Volume, there are 11 and 9 other strings for the *Ya qin*.[20]

- The tuning strings of the 11 strings are sol, sol, la, do, do, re, mi, sol, la, do, and do.
- The tuning strings of the 9 strings are sol, la, do, do, re, mi, sol, la, and do.

In the above three kinds of strings of the tune-up, its tone fret arrangement of sol and do is set with two adjacent tones of the same degree; it is understood that this is related to enhancing the volume of the *Ya qin* because these two tones are used as the backbone of the tune in the singing of Wu'an Ping Diao, and pulling two tones at the same time can harmonize the tone, increase the volume, and strengthen the momentum of the accompaniment.[21]

When we play *Ya qin*, the left thumb goes into a round hole on the back of the instrument, the other four fingers hold the outside of the instrument, and the top of the culm in the right hand is pulled in the shape of a pen.[22] The way of holding the *Ya qin* is related to the setting of a round hole in the bottom of the *Ya qin*, which is also different from the other four cases of *Ya zheng*.

After the founding of the People's Republic of China, with the reform of Xiqu and the performance of new repertoire, the orchestra of Wu'an Ping Diao was expanded, increased, and reduced, and after 1960, the zither was basically not in use. In recent years, Wang Bin of the Wu'an Ping Diao Luozi troupe had restored and improved the *Ya qin*, which was not used in the orchestra.

SHANXI HEJIN *FU QIN*

The *Ya zheng* in Shanxi was popular in the areas of Hejin, Wanrong, Xiangning, and Jishan in Shanxi, but the existing pictures of the instrument and related documents record only the Hejin *Fu qin*.

Hejin *Fu qin*, a scraped instrument, is one of the accompanying instruments of Hejin storytelling. The folk artists named it *Fu qin*, and Fu's local pronunciation is "fei", meaning "lightly scrapped"; because the instrument is

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[20] Ma Longwen. 1993. Chinese Xiqu Catalogue, Hebei Volume. Unpublished ms. Beijing: China ISBN Center. Unpubl. ms., 261.

[21] Liu Dongsheng. 1987. Chinese Musical Instruments. Beijing: Light Industry Press, 262.

[22] Ma Longwen. 1993. Chinese Xiqu Catalogue - Hebei Volume. Unpublished ms. Beijing: China ISBN Center. Unpubl. ms. 565.

mostly used by displaced folk artists, it is also known as "miscellaneous *zheng* music (Zayue *zheng*)".[23]

Hejin storytelling is one of the folk music kinds in Shanxi Province. Because the storytellers are all blind artists, the local people also call it "blind storytelling". Hejin storytelling has been active since the Jiaqing period of the Qing dynasty (about 1800), but all information was lost due to a disaster in the third year of Guangxu. After 1965, the Hejin County Cultural Center began to organize a propaganda team of blind artists to compile and revive the singing of traditional titles. Among them, Zhang Enke is an important blind artist of Hejin storytelling, who has provided first-hand information for organizing and restoring the study of Hejin storytelling and Hejin *Fu qin* and other accompanying instruments and performances.

Zhang Enke (1927–? (deceased)) was a native of Shienzhuang Village, Zhaojiazhuang Township, Hejin City. He was blind since childhood and began to learn the art from his teacher at the age of 13. He sang with a clear voice and a wide range, playing mostly female roles. At the same time, with the characteristic instrument of Hejin storytelling, Zhang Enke's performance is known as the best in the local storytelling.[24] When he sings Hejin storytelling, he straps a "walking board" (a percussion instrument) to his leg and plays two instruments to sing.[25]

Figure 10: Zhang Enke and the Hejin *Fu qin*. Printed with permission.[26]

Hejin Fuzheng is a one-string, multi-string, multi-yard bowed instrument. According to the research conducted by Li Jinggang and Xu Shijie of

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[23] Li Jinggang and Xu Shijie. 1988. Zayue Zheng [Miscellaneous Zheng Music]. Chinese Music, 1: 79.

[24] Sun Shen. 2004. The Integration of Chinese Quyi Music - Shanxi Volume (Volume II). Beijing: China ISBN Center. Unpubl. ms, 796.

[25] Xiang Yang. 1999. Zhongguo Gongxian Yueqishi [History of Chinese bowed string instruments]. Beijing: International Culture Publishing House, 7.

[26] Xiang Yang. 1999. *Zhongguo Gongxian Yueqishi* [History of Chinese bowed string instruments]. Beijing: International Culture Publishing House, 4.

Yuncheng District Literary and Industrial Troupe in Shanxi Province in the 1980s, the *Fu qin* used by Zhang Enke has a body length of 68 centimeters, a resonance box length of 49 centimeters, a side height of 5.5 centimeters, a middle arch height of 9.5 centimeters, a yard height of 4 centimeters, 12 strings, a headstock height of 10 centimeters, a qin stick length of 46 centimeters, a garden shape, a diameter of about 0.5 centimeters, and a round hole at the end of the qin for a storage stick hole, from which the stick is inserted into the resonance box for storage. There are two holes on the back of the instrument; the upper one is for holding the instrument, and the lower square hole is for the sound hole. The *Fu qin* is made of Chinese parasol wood, and the string shafts and string bridges are made of jujube wood. From Zhang Enke's style of holding the *qin*, the Hejin *Fu qin* is played vertically. When playing, the left hand holds the back hole of the qin, the right hand holds the stick to whisk the strings, the vertical side of the *qin* turns with the harmony, and the right leg is tied to the bamboo board to strike the knot. The sound of *Fu qin* is not too bright, the sound quality is sandy, and the after-tone is long and harmonious, which is quite unique.

Hejin *Fu qin*, a 12-stringed, 12-yard instrument, is arranged according to a pentatonic scale, but the scale is arranged with 9 tones in the literature.[27]

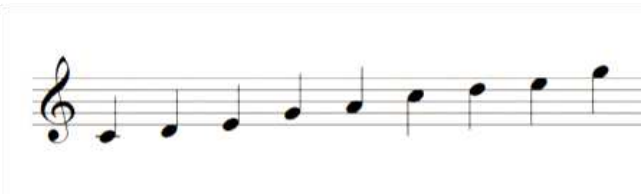

Figure 11: Tuning of Hejin *Fu qin* (in the key of C, for example), created by the author.

HENAN WUGANG *YA ZHENG*

Henan Wugang *Ya zheng*, also called *Ya qin*, is one of the characteristic accompanying instruments of Henan dadiaoquzi (main Henan tunes).

It is one of the folk music forms in Henan Province. There was an old performer named Guo Meixin, born in 1907 in Wugang City, Henan Province, a native of Yangzhuang Township of Wugang City. He came from a musical family of Henan dadiaoquzi and now has musical instruments such as Ya Zheng, Gu Zheng, San Xian, Si Xian, and many kinds of singing books. Guo Meixin sings and plays well, especially the ancestral *Ya zheng*, which is a masterpiece of organology to him.[28]

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[27] Li Jinggang and Xu Shijie. 1988. *Zayue Zheng* [Miscellaneous Zheng Music]. Chinese Music, 1, 90.

[28] Zhou Hongjun. 1996. The Integration of Chinese Quyi Music - Henan Volume

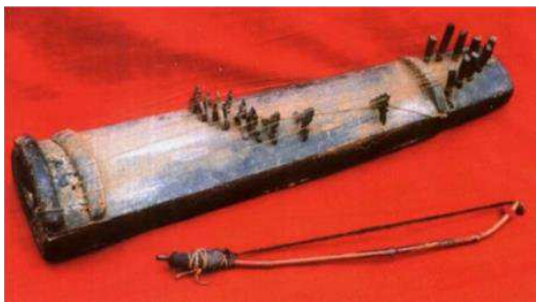

Figure 12 (left): Guo Meixin plays the *Ya zheng*; Figure 13 (right): From Guo Meixin's Collection of Ming Dynasty *Ya zheng*..[29]

Wugang *Ya zheng* is a one-string and one-fret, multi-string and multi-fret instrument. The body is rectangular 66.5 centimeters, the speaker is 62 centimeters long, the head is 13 centimeters wide, the tail is 9.5 centimeters wide, and there are two rows of string shafts at the end of the instrument. The top of the instrument is arched, and the bottom of the instrument is flat with two sound holes and a hole for holding the instrument. Between the head and the tail stands herringbone adjustable waist code tuning, a string and a yard of 9 strings. The bow of the instrument was originally made of rolled bamboo strings, but now, it is made of bamboo, with a length of 41 centimeters.[30]

Wugang *Ya zheng* is a one-string and one-yard, 9 strings and 9 yards instrument. With the traditional pentatonic scale to set the strings, its scale arrangement is shown:

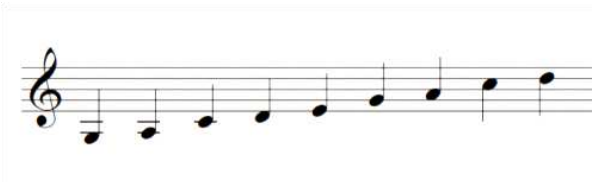

Figure 14: Tuning of Wugang *Ya zheng* (in the key of C, for example), created by the author.

The playing posture of Wugang *Ya zheng* is mainly in the sitting posture, and the instrument is held in a flat position, with the head of the instrument facing downward and the tail of the instrument on top of it, and the body of the instrument is tilted outward. When playing, the thumb of the left hand is put into a round hole of the bottom board, and the other four fingers hold the outer side of the instrument to keep it stable, while the right hand holds the bow and rubs the strings horizontally near Yue Shan. This kind of holding the qin with

(Volume I). Beijing: China ISBN Center. Unpubl. ms., 439.

[29] Zhou Hongjun. 1996. The Integration of Chinese Quyi Music - Henan Volume (Volume I). Beijing: China ISBN Center. Unpubl. ms.

[30] Zhou Hongjun. 1996. The Integration of Chinese Quyi Music - Henan Volume (Volume I). Beijing: China ISBN Center. Unpubl. ms., 43.

the left hand to roll the body with the right hand to pull the strings is also called Gun qin.[31] In the performance of Wugang *Ya zheng*, both hands cooperate with the action at the same time, one string and one tone. When playing a long note, both hands shake quickly, which can play a vibrato effect.

The *Ya zheng* is played as a solo and sings while playing and is mainly used as an accompanying instrument for Henan dadiaoquzi [大调曲子]. The accompanying band of Henan dadiaoquzi is usually accompanied with the changqiang (music for voices in a Chinese Xiqu). In the accompaniment with the changqiang, the *Ya zheng* mainly accompanies the changqiang with a simple tone pattern, and at the end of the changqiang or at the middle of the changqiang, the volume is increased and different rhythmic patterns are added. Now, there are three traditional songs of Henan dadiaoquzi, such as "Yu qiaogen du (Fisherman, woodcutter, farmer, and scholar)", "Guang gong kuntu shan" (Guan Gong is Stuck in the Earth Mountain)", and "Baxiu caitong zhuoba fanchi (Eight Xiu Cai Eat at the Same Table)", as well as the newly adapted composition "All Will Become a City to Fight the Epidemic".

So far, the *Ya zheng* is only found in the Guo family of Wugang, Henan Province, and is now handed down by Guo Jiuzhou (1957–), the grandson of Guo Meixin. In 2007, "Wugang *Ya zheng* "was listed in the first batch of Henan provincial intangible cultural heritage. Nevertheless, the instrument is still tangible.[32]

CONCLUSION

What is a pattern? "A pattern is a structure and form that is formed objectively at different stages in the development of things and is relatively stable and happens often. The patterns of musical forms are expressed in the form of musical instruments, orchestra combinations, qupai[33] and music forms, scores and score types, key systems, meters and rhythms, performance techniques and styles, melodic development techniques, and other features". [34] The purpose of using pattern analysis is "to seek the similarity of things from the same patterns in the comparative analysis of two or more similar patterns; to

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[31] Zhou Hongjun. 1996. The Integration of Chinese Quyi Music - Henan Volume (Volume I). Beijing: China ISBN Center. Unpubl. ms., 43.

[32] Similar observatioms are reported about Pingdingshan Culture, Radio, Film and Tourism Bureau website http://wglj.pds.gov.cn/contents/12740/263288.html, last accessed 16th November, 2022.

[33] A qupai (Chinese: 牌子; pinyin: paizi) is the generic term for a fixed melodic construction used in some Chinese music traditions.

[34] Yuan Jingfang. 2021.*Zhongguo Yuezhongxue* [Chinese Music Genre Studies]. Beijing: People's Music Publishing House, 271.

seek the different categories or derivations and developments from the different patterns." In this paper, we use pattern analysis to analyze the musical instruments and the music used in the above five cases and conclude that the musical instruments as *Ya zheng* of northern China have the following two characteristics.

THE ESSENTIAL CHARACTERISTICS

Through analyzing the typological patterns of the five cases of *Ya zheng* in terms of the shape of the instrument, the main materials (body/bow), the strings/posts, the sound hole of the base plate, the way of holding the instrument, and the method of playing, this paper concludes that the *Ya zheng* in the five cases handed down to the present has the same typological pattern structure as the *Ya zheng* recorded in history and has the common characteristics of the *Ya zheng*, that is, the essential characteristics.[35]

- The shape of *Ya zheng* is rectangular.
- The main materials of *Ya zheng*:
- The body of the instrument is made of Chinese parasol wood.
- The bow of the instrument is made of bamboo, sorghum straw, and horsetail.
- Number of strings used: 7, 9, 10, 11, 12, 13, and combinations.
- The sound hole of the bottom board and the style of holding the instrument: flat and vertical.
- Playing style: left hand holds the instrument and right hand bows it.
- Playing techniques: bowing and striking.

The production of the surface of the *Ya zheng* is described in the time period of the Qing dynasty's 'The Imperial Ritual Vessel Chart'.[36] This refers to the material of *Ya zheng* and the method of making the surface of the instrument. Among them, "ku" means to cut open the parasol wood and then hollow it out. This is the same as the production of the top of the *Ya zheng* nowadays, and the folk say that the appearance of being cut open and then hollowed out is

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[35] The musical instrument *Ya zheng* in historical documents as reported previously in this volume. Chen, Liana. 2009. *Ritual into Play: The Aesthetic Transformations of Qing Court Theatre*. Stanford: Stanford University ProQuest Dissertations Publishing.

[36] Chen, Liana. 2009. *Ritual into Play: The Aesthetic Transformations of qing Court Theatre*. Stanford: Stanford University ProQuest Dissertations Publishing. Further examples can be found under the Department of Asian Art. 2001. Yuan Dynasty (1271–1368). *Heilbrunn Timeline of Art History.* New York: The Metropolitan Museum of Art, 2000-, accessible via http://www.metmuseum.org/toah/hd/yuan/hd_yuan.htm, last visited 23rd June, 2023.

similar to that of the windlass head used for drawing water, so it is also called "half windlass head".

At the same time, the use of music for each *Ya zheng* in the coeval case also gives a clearer interpretation of the *Ya zheng* that is not known in the historical documents.

For example, the vertical or vertical style of holding the qin is related to the shape of the body and the size and position of the hole in the bottom of the qin.

For example, there are "two strings and one fret" and "one string and one fret" in the *Ya zheng*, if we combine them with the *Ya zheng* in the case. If we combine the characteristics of string setting and scale arrangement in this case, we will understand that "one string and one fret" is the basic original form, and "two strings and one fret" is to increase the volume of the sound. Meanwhile, from the point of view of the scale arrangement, the repetition of "sol do" is related to the highlighting of the backbone of the singing voice, and the most basic number of strings for the *Ya zheng* should be 7 strings. The number of strings of the rehabilitated or improved *Ya zheng* is related to the range of its use.

The interpretation of "Ya" in *Ya zheng* is that "Ya" clearly indicates that the instrument belongs to the category of bowing instruments. In the *Ya zheng* that has been handed down in living transmission, the use of the bow is also the most characteristic technique of the *Ya zheng*.

In short, these music instruments named *Ya zheng*, which have been handed down to this day, still have strong genetic characteristics in the process of historical development and transmission.

REGIONAL CHARACTERISTICS

The regional characteristics under the genre are mainly expressed in the local style of the music of *Ya zheng* in the case. Generally speaking, the important elements of the local style are the performance techniques, the melodic development techniques, and the orchestra combination.[37]

In the case of *Ya zheng*, there are three forms: solo, ensemble, and accompaniment. Through the analysis of its string and scale patterns and traditional repertoire, the music of *Ya zheng* is mostly related to the accompanying music of local talking and singing, Xiqu, and instrumental ensemble music. As an accompanying instrument, its combination with the orchestra, the accompanying characteristics of the music for voices in a

[37] Yuan Jingfang. 2021.*Zhongguo Yuezhongxue* [Chinese Music Genre Studies]. Beijing: People's Music Publishing House, 12.

Chinese Xiqu, the instrument's setting and scales, the performance techniques, and the traditional melodic development methods all give the music of *Ya zheng* in different regions its regional characteristics.

Through the above analysis of the pattern structure of five cases of *Ya zheng* in northern China in terms of musical form, the author hopes to provide serial and reliable data on "types, music and ecology of *Ya zheng* in China and East Asia".

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The Performance, Musical Properties, and Investigation of the Zhuang Seven-string Half-tube Zither

Chu Zhuo [楚卓][1]

Abstract

Originated from the earliest Chinese stringed musical instrument *Ya zheng*, the Zhuang seven-stringed zither, which is called Chen Yin, meaning seven strings in the ethnic language, falls into the category of bowed stringed chordophone and is popular in the counties of Donglan, Fengshan, and Bama in China's Guangxi Zhuang Autonomous Region. It is composed of a soundbox of horizontal semicircular shape consisting of a face plate glued with a baseboard, a board with possibly movable frets in triangle shape with perforations at one corner, through which the seven strings are attached. A bow is employed in performance, in which the zither is held horizontally in front of the chest by the left hand (Figure 1). Existing publication has been mainly devoted to the history, evolution, artistic features, and amelioration of the instrument. The present research is working on the musical properties and performance of the instrument and looking into the development so far.

Keywords

Ya zheng, Half-tube zither, Zhuang, Guangxi, China

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[1] Chu Zhuo, Associate Professor, now works as Deputy Dean of Academy of Arts, Guangxi Arts University, Curator of Guangxi Ethnic Music Museum and Master Supervisor in Theory of Ethnic Music, concurrently holds the post of Deputy Secretary-General of the Music Society for Chinese Ethnic Minorities, and is also a member of World Ethnic Music Association.

Chu Zhuo [楚卓]. 2023. The Performance, Musical Properties, and Investigation of the Zhuang Seven-String Half-Tube Zither. *Musical Bows and Zithers along the Great Silk Road*. Edited by Xiao Mei and Gisa Jähnichen. Berlin: Logos, 49-58.

Analysis of Musical Properties and Performance of the Instrument

Performance is considered to be the most vital indicator in the evaluation of musical instruments, which hinges on their acoustic composition including vibrating, percussion, and resonating chambers as well as the modulating system, and could be assessed from the two perspectives of acoustic and modulating capabilities, as is illustrated as the following scheme (Figure 2).

Figure 1: Two performers of the Zhuang *Ya zheng*, bowing their musical instruments.

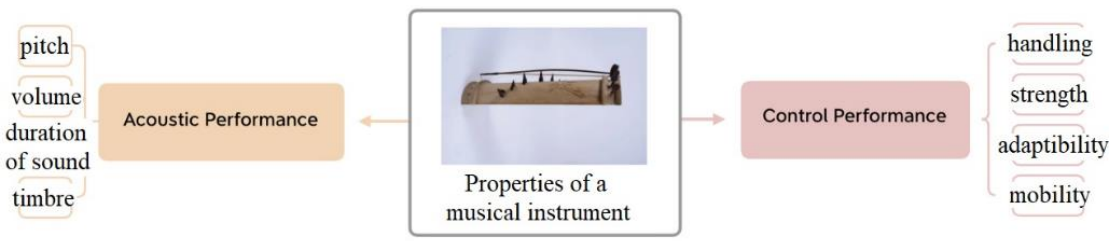

Figure 2: Simple scheme of detectable features in a musical instrument. Scheme by the author.

The present evaluation takes four pieces of the zither in question as samples, three of which are collected by Guangxi Museum of Ethnic Music. The four samples are tagged A, B, C, and D (Figures 3–6), each being a replicated work of some original piece, the assessment of which in the two perspectives of acoustic and modulating capabilities reveals the following implication.

Figure 3: Sample A, Figure 4: Sample B

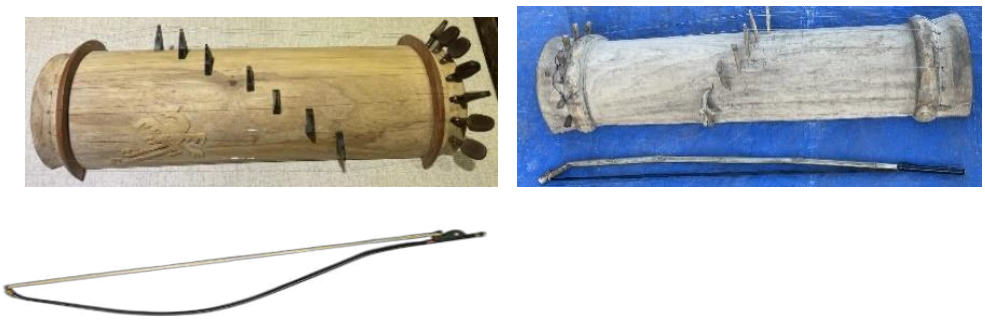

Figure 5: Sample C, Figure 6: Sample D

PITCH AND INTONATION

A pentatonic scale pattern is adopted in one octave and arranged in the following two ways:

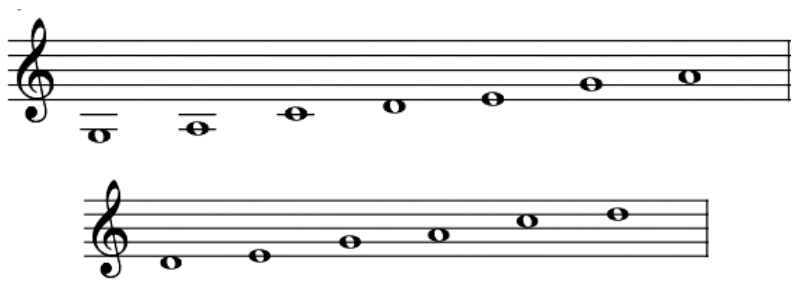

Figure 6a and 6b: Scale patterns and approximate arrangements of strings. Each depicted note represents one tone on one string.

The making and tuning of the zither are accomplished relying solely on human hearing capacity without any extra facilities.[2] Tuning involves twisting the

[2] This corresponds to observations made by Chen Kunpeng [陈坤鹏]. 2013. Comparison of the Zhuang Seven-stringed Zither with Related Music Instruments [壮族七弦琴与相关乐器之比较]. *Chinese Music* [中国音乐], 130 (2): 72-76.

peg, adjusting the mobile fret, and bowing the strings on the right part of the soundbox.

Contrastive Assessment of Volume and Sound Duration of the Zhuang Seven-string Zithers

Employing the microphones connected to the recording software ProTools with a height of 2.2 meters and a sound frequency of 442 Hz, which is in operation for 10 seconds placed one meter away from the performer (Figures 7a and 7p), contrastive assessment of volumes and lengths is carried out on the four samples with sound outlets of differentiated shapes and enclosing boards with various piercing patterns on both sides.

7

Figures 7a (left) and 7b (right): Playing a *Ya zheng* in experiment. Photos by courtesy of Guiping. Printed with permission.

Sample A (made in 1982, Figure 9) features a hollow soundbox, an arched face board, pierced enclosing boards on both sides, and a flat base plate with four holes right in the middle as well as an additional bigger hole 10 centimeters from the length side.

Figure 9: Sample A from different perspectives (left and right). Photos by courtesy of Guiping. Printed with permission.

Sample B (made in 2000，Figure 10) features a hollow soundbox, an arched face board, enclosing boards on both sides, and a flat base plate with four perforations right in the middle, as well as an additional hole 10 centimeters from the side.

Figure 10: Sample B from different perspectives. Photos by courtesy of Guiping. Printed with permission.

Sample C (made in 2018，Figure 11) features a hollow soundbox, an arched face board, pierced enclosing boards on both sides, and a flat base plate with four perforations right in the middle, as well as an additional perforation 9 centimeters from the side.

Figure 11: Sample C from different perspectives. Photos by courtesy of Guiping. Printed with permission.

Sample D (made in 2018, Figure 12) features a hollow soundbox, an arched face board, pierced enclosing boards on both sides, and a flat base plate with a semicircular orifice right in the middle, as well as an additional perforation 10 centimeters from the side.

Figure 12: Sample D from one perspective. Photo by courtesy of Guiping. Printed with permission.

As demonstrated in the illustration (Figure 12), the sound features in the base plate are the holding positions of the left hand playing the instrument. Bow on

the finest string of each sample for three times and the recording facility records the maximum sound pressure so as to prevent inaccuracy resulting from possible variation of strength maneuvered in bowing (Figures 13, 14).

Figure 13, Figure 14. Measurement in experiment. Photos by courtesy of Guiping. Printed with permission.

The assessment results indicate that the sample with pierced enclosing side boards and a semicircular orifice boasts a higher volume. The sound length amounts to three seconds in the cases of samples with pierced enclosing side boards in contrast with one second in the case of a sample with enclosing side boards.

TIMBRE

NO. 29 and NO. 31 strings of the dulcimer are applicable in the seven-stringed Chinese zither (48.5–49.5cm), which, as a medium and high musical instrument, boasts a reedy timber with a frequency spectrum of 200 Hz to 8 kHz (Figure 15).

Figure 15: Depicted measurement of timbre facilities. Photo by courtesy of Guiping. Printed with permission.

Structural Design and Material Properties

Given the above-mentioned analysis of sample Zhuang seven-stringed zithers for nonprofessional use[3], it follows that it is made in such a manner as to bring out the best possible performance of the instrument, which features 65 to 75 centimeters in length, 9 to 10 centimeters in height, and about 17 centimeters in width. The instrument is made from platane wood, which is light and facilitates holding in performance.

Evolution

As a variant of *Ya zheng*, the ancient Chinese chordaphone, the Zhuang seven-stringed zither thrived in the Tang dynasty and evolved through the dynasties of Song, Yuan, Ming, and Qing. Besides the Zhuang seven-stringed zither, the instruments for the present panel discussion are all variants of *Ya zheng*. The Zhuang seven-stringed zither used to be popular in Guangxi in the Ming and Qing dynasties and was recorded by some scholars in field work in the 1960s, after which time, though, it sank into obscurity after the year 2000 until 2021 when the nephew of the interviewee in record five decades ago was encouraged to pick up the techniques to play the instrument.

The video showcases the principal performance techniques of the Zhuang seven-stringed zither. While playing the instrument, the performing artist turns the soundbox of the instrument as he scrapes the strings with the bow in the right hand in various maneuvering movements to strike the desired pitch. The meter of the tune is two fourths. The tune features a BPM value of about 80 and even tempo with regular pairing notes woven throughout the melody, which indicates the changes in the ways to maneuver the bow. First of all, let us trace the evolutionary origin of the Zhuang seven-stringed zither to *Ya zheng*. Some older Chinese literature shows that while being performed on, the instrument could be placed vertically on shoulder, held horizontally before chest, or stationed on the desk with the performer standing in front of it (Figure 16), sitting (Figure 17), or walking (Figure 18).

[3] Su Jiao [栗姣]. 2017. A Study of the Zhuang Seven-stringed Zither in the Context of Instrumentation [乐器学视域下的壮族七弦琴研究]. Nanning: Guangxi Normal University [广西师范大学], Master Thesis, unpubl. ms.

Figure 16 (left), Figure 17 (middle), Figure 18 (right), all showing different playing positions. Photos by courtesy of Guiping. Printed with permission.

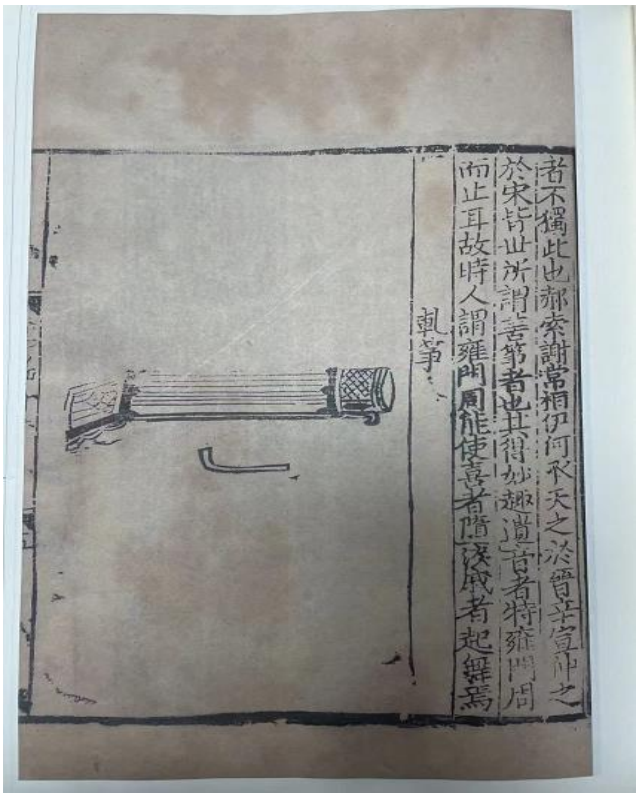

Figure 19: *Ya zheng* in vol. 146 of an early Chinese musical encyclopedia composed and compiled by Chen Yang [陳暘]. Printed with permission.

The heavily cited illustrations of *Ya zheng* in vol. 146 of an early Chinese musical encyclopedia composed and compiled by Chen Yang [陳暘][4], the musical theorist in the time period of the Northern Song dynasty, had revealed the fact that the instruments came in forms with and without pegs, the negligence of which fact results in a wrong research condition of the changes in playing the instrument. Examination of the illustrations of *Ya zheng* in the Music played during the time period of the Yuan dynasty in that edition verifies that the *Ya zheng* (Figure 19) had come in without pegs in Tang dynasty and evolved to include pegs since during the mid Song dynasty, it was

[4] Chen Yang. 1101. 乐书 - Yue Shu. [Treatise on Music]. Ms. without page numbers.

called *zhen* instead and developed a smaller variant that could be held in the hand or placed on a desk and a larger variant that could be carried on the shoulder in performance.

The Zhuang seven-stringed zither evolved from the smaller variant of the *zhen* in the Song dynasty with seven strings and seven pegs. Soloists play on the zither holding with the left hand and maneuvering the bow with the right hand in a sitting or standing position.

Second, the evolution of the Zhuang seven-stringed zither in social and cultural context is focused. These contexts are not limited to the immediate surroundings or conditions but to the entire system of musical instruments.

The seven-stringed zither was introduced by Han national people to the counties of Donglan, Fengshan, and Bama in Guangxi, where the Zhuang people resided. Immigrant Han people intermarried and became assimilated with the local Zhuang people over the decades, during which period the seven-stringed zither had grown to represent Zhuang musical culture.

As is revealed in the local folk song lyrics, the Zhuang seven-stringed zither is generally played on the occasions of wedding ceremonies, musical accompaniment for male and female duet, self-entertainment, and so on. It is self-evident that social and cultural backgrounds had played a vital role in the fading into obscurity and revival and refinement of the instrument. The rise of Pop culture in the place of the instrument's role in self-entertainment at the end of the 1990s underpins the instrument's sliding into obscurity. The year 2021 marked the revival of the instrument with the concerted efforts of local government, scholars, and local artists with the commitment to preserve the Zhuang musical culture.

The instruments, music scores, and recordings collected over the past few decades as well as research on the playing techniques all combine in facilitating revitalizing the glamor of the instrument. It is noteworthy that a society for learning the Zhuang seven-stringed zither has been established with the support of the local government.

CONCLUSION

As the Zhuang seven-stringed zither evolves from the ancient Chinese musical instrument *Ya zheng*, which was dubbed the ancestor of Chinese stringed instruments, it exemplifies the integration of Zhuang and Han musical culture with its featured historical value. Gerald Dyck, the contemporary anthropologist from the US, carried out field work and research on *Pin-Pia,* the plucked stringed instrument popular in Lanna in ancient Thailand; his endeavor to revive the ancient musical instrument inspires us in our efforts to revitalize the Zhuang seven-stringed zither in a manner featuring the

preservation of the original structure and musical properties and facilitating the sustainable development of the instrument.

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Chen Kunpeng [陈坤鹏]. 2013. Comparison of the Zhuang Seven-stringed Zither with Related Music Instruments [壮族七弦琴与相关乐器之比较]. *Chinese Music* [中国音乐], 130 (2): 72-76.

Chen Yang. 1101. 乐书 - Yue Shu. [Treatise on Music]. Ms. without page numbers.

Remarks

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SECTION 2

THE PATH ALONG THE SOUTH

Bidayuh Pratuokng and Pretong Sound Faculties in Sarawak

Ahmad Faudzi Musib[1]

Abstract

It is critical to consider the role of each sound within an instrument's faculty when evaluating its sound reproduction capabilities. The Bidayuh Biatah gongs ensemble, modelled after the pratuokng sound radiators of Annah Rais in Sarawak's Padawan district, is made up of the tawak, sa-tuk, and canang. The Bidayuh Jagoi of Bau refers to it as the kromong, canang, gong, tawak, and gedabak. The transmission of the gongs to bamboo-sounding musical instruments is a unique and innovative process. This study intends to highlight the significance of sound studies in a field recording setting. The balance is very much taken into account with the cultural needs set in the practicing community and the diversity of acoustic observations and perceptions in the context offered by the actual meaning of these bamboo tube zither instruments.

Keywords

Bidayuh, Pratuokng/Pretong, Sound faculties, Bamboo tube zither

Introduction

Researchers and social scientists in various fields of study apply methods, processes, and approaches to enrich knowledge about culture, life, and civilization. Musical anthropology also aims to solve problems related to any area involving human behaviour. The discipline of ethnomusicology may encompass some specific methods for examining music that emphasizes social, material, cognitive, biological, and other settings as it is closely related to the formation of communities' lives and practices. On the other hand, audiovisual archivists play an essential role in adding a necessary technical dimension to individual sound elements or any collection of them.

Numerous experts have studied traditional musical instruments from Peninsular Malaysia, such as the Gamelan Melayu, Nobat Nafiri, and

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Ahmad Faudzi Musib. 2023. Bidayuh Pratuokng and Pretong Sound Faculties in Sarawak. *Musical Bows and Zithers along the Great Silk Road*. Edited by Xiao Mei and Gisa Jähnichen. Berlin: Logos, 61-82.

Kompang in Sarawak and Sabah on Borneo[2]. To name a few anthropological and cultural examples, these include the Kulintangan, Sabah's mouth organ Sompoton, the Sape of the Kayan, the Kenyah, and the Orang Ulu in general.[3] However, more research needs to be conducted on some technical characteristics, such as the tube zithers' construction materials, acoustic characteristics measured through examining field recordings, and scientific assessments of the structural features in music that is produced in different ways and on different occasions.

When assessing an instrument's ability to reproduce sound, the method is to consider each sound's function within its faculty. Therefore, the primary goal of this research is not only to contribute to the audio archiving of the entire string instrument's sound culture but also to provide an individual community description for the selected bamboo zithers, namely, the pratuokng of the Bidayuh Biatah and the pretong of the Bidayuh Jagoi, in their living environment. Furthermore, the connections between the musical parts and patterns of the gong sets of the Bidayuh and the bamboo zithers' pratuokng led to investigating the transfer of the gongs to musical instruments produced on the bamboo zither as a unique and novel technique.

Some Bamboo Tube Zithers' Sonic Characteristics and Cultural Meanings around the World

The results of the study of bamboo are not limited to the study of the plant or its biological sources; numerous conclusions also refer to conclusions about musical instruments made of bamboo. A study on pitch retrieval from plant sources was made, for example, analysis of the fast Fourier Transform[4] to identify the fundamentals and overtones of the individual tubes of an Angklung in the study on vibro-acoustic characteristics of bamboo-

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[2] Matusky, Patricia and Tan Sooi Beng. 2017. *The Music of Malaysia: The Classical, Folk and Syncretic Traditions*. 2nd edition. New York: Routledge.

[3] Eghenter, Cristina, Bernard Sellato, G. Simon Devung, eds. 2003. Social Science Research and Conversation Management in the Interior of Borneo, Unravelling Past and Present Interactions of Peoples and Forests. Jakarta: Centre for International Forestry Research, 269.

[4] Fast Fourier Transform (FFT) is used to process data in the digital world. It allows specific computers to calculate the different frequency components efficiently in time-varying signals, and also to reconstruct such signals from a set of frequency components. An analysis is, therefore, a frequency analysis.

based instruments[5] and a traditional bamboo musical instrument, sompoton: Sabah bamboo mouth organ[6]. Among many other studies in the region, studies such as those in Madura, Indonesia, and the bamboo music of Lumajang, East Java, also concentrate on the excellent faculties of the serbung or juwer, the blown gong[7], the kendang keplak (literally 'slapped drum'), and the kenand pukul type of slit or tongue drum.

Figure 1: Serbung or juwer the blown Gong[8] This picture is in the public domain and reprinted with permission.

Another similarity of the talempong bamboo's rational faculties (Figure 2) discovered in the State Museum of West Sumatra in Padang, Indonesia, in 2014. The instrument's name relates to its connection to talempong (caklempong), which is a name for a group of gongs.

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5 Hamdan, S., Rahman, M. R., Mohamad Said, K. A., Zainal Abidin, A. S., and Musib, A. F. 2022. Sompoton: Sabah Bamboo Mouth Organ. *BioResources* 17(3), 5335-5348.

6 Hamdan, S., Rahman, M. R., Zainal Abidin, A. S., and Musib, A. F. 2022 . Study on Vibro-acoustic Characteristics of Bamboo-based Angklung Instruments. *BioResources* 17(1), 1670-1679.

7 The blown gong refers to an instrument type used in the bamboo music. It is a bamboo-organ-tube producing usually 2 low-pitched tones an approximate fifth apart. It sounds through the air column and has nothing to do with a metal gong.

8 Van Zijp and J.S. Brandts Buys Archive collections. Available via https://www.auralarchipelago.com/auralarchipelago/serbung, last visited 22 January 2023. This picture is in the public domain.

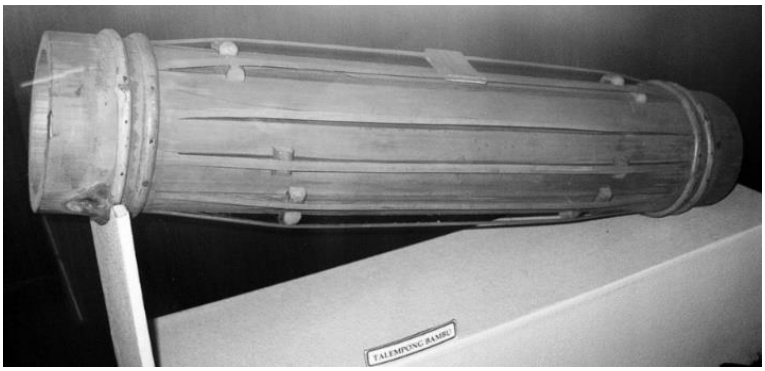

Figure 2: Taklempong Bambu in the State Museum of West Sumatra, Padang, Indonesia (photo by courtesy of Gisa Jähnichen, January 2014).

The 'te na wa', called zither from Thailand and Burma's border area, is also an example of those tube zithers. There are Karenni musicians playing musical instruments with hoops. Mo Ee, a Keranni musician, plucks the bamboo 'strings' with silver rings on her fingers, open silver bracelets, and black lacquer hoops on her wrists. There exist a number of excellent photographs made by Victoria Vorreiter[9] about the Kayah State in Burma, the village community of Ban Nai Soi in the northern provinces of Thailand, which she visited in December 2008. The pictures show the shape of the tube zithers and the idiochord strings, which are in cases played in pairs. Respective pictures can be seen in one of her recent publications:

BIDAYUH COMMUNITIES IN SARAWAK

The community known as the Bidayuh lives in the southwest of Sarawak, particularly in the division Kuching and the Serian District in West Kalimantan. The map (Figure 3) illustrates the geographical areas occupied by the Bidayuh and their subgroups, which differ mainly in dialects and some other characteristics. The section explains the most important linguistic varieties recognized by the Bidayuh[10]. The Dayak Bidayuh National

[9] Victoria Vorreiter published in social media platforms excerpts of her photographic studies among those people. She took various pictures during her anthropological fieldwork in 2008. Some of her unique creations can be seen here: https://www.facebook.com/photo.php?fbid=1330125217744474&set=pb.100022410242767.-2207520000.& type=3, last visited 27 January, 2023.

[10] Rensch, Calvin R. Carolyn M. Rensch, Jonas Noeb, and Robert Sulis Ridu. 2012. The Bidayuh Language: Yesterday, Today, and Tomorrow *SIL International E-Books,* 33.

Association's scholars named Ik Pahon anak Joyik and Josak anak Siam conducted studies on the Bidayuh language and subdialects, which served as the basis for the classification[11]. The following are some of the Bidayuh community's subgroups: As a result of the study, two communities, namely, Bidayuh Jagoi and Bidayuh Biatah, are chosen to be highlighted in this discussion of the sound characteristics of Bidayuh bamboo tube zithers.

i. Selakau/Lara (Lundu District)
ii. Jagoi/Singai (Bau District)
iii. Biatah (Padawan Subdistrict)
iv. Bukar/Sadong (Serian District)
v. Kuching Tengah/New Bidayuh/Modern Bidayuh (central area between Padawan and Bau)

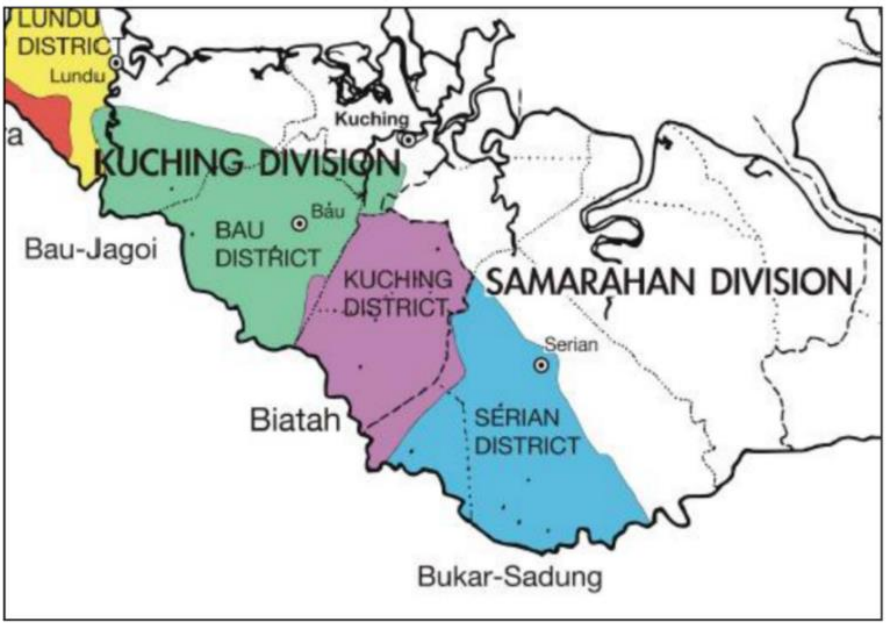

Figure 3: Map defined by linguistic varieties of the Bidayuh and subethnic groups mostly inhabiting the southern part of Sarawak (map by courtesy of Calvin R. Rensch[12]).

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[11] Ik Pahon anak Joyik and Josak anak Siam (2014). *SIL Malaysia* Branch. Accessible via URL: http://www.mymla.org/files/icmm2010_papers/ICMM2010_p30.pdf (Retrieved 20 October 2014)

[12] Rensch, Calvin R. Carolyn M. Rensch, Jonas Noeb, and Robert Sulis Ridu. 2012. The Bidayuh Language Yesterday, Today and Tomorrow. *SIL Digital-Books*, 33: 6. Accessible via https://www.sil.org/system/files/reapdata/ 14/22/41/142241 791248658274840881242401680083100/ebook_33_Bidayuh_6_21_12_rev.pdf, last visited 25 January 2023.

According to the statistical bulletin published by the Sarawak State Statistics Department in 2011, 161,873 Bidayuh or Land Dayak community members live in Sarawak. The Bidayuh community is predominantly attending Christianity of different types or abandoned believe systems altogether. Some single members of the Bidayuh community converted to Islam through intermarriage. Investigating an instrument's sound reproduction capabilities, there might be the need to consider the function of each sound within the instrument's faculty as there is the place of sound and not the place of ideologically appropriating sound. The Bidayuh gong ensembles are often composed of tawak, satuk, and canang and replicate the pratuokng sound radiator of Annah Rais in Padawan Sarawak (Figure 4b). It is referred to as the kromong, canang, gong, tawak, and gedabak by the Bidayuh Jagoi of Bau.

Figure 4a and 4b: Pratuokng of the Bidayuh Biatah (left) and the pretong of the Bidayuh Jagoi (right) (photographs by the author).

THE PRETONG OF THE BIDAYUH JAGOI PEOPLE IN BAU DISTRICT OF SARAWAK

The pretong or sretong is the name of the tube zither used by the Bidayuh Jagoi people in Bau. One used pretong in Semaba village of Bau, according to the informant Christopher Jehet, is much smaller and has only three strings. A single pretong has canang, kromong, tawak, gong, and gedabak as its sound radiators. The Baruk serves as the performance venue. It is enjoyed among friends for leisure, weddings, and Gawai. Christopher Jehet claims that

betong, a type of bamboo, is used to make pretong. He continued by pointing out that even though pretong or sretong only has three strings, it can produce five distinct tones. The first string is known as the gong, followed by the second string, broken up into the kromong and canang strings, and the third string, the tawak strings. A beater plays on each string. The left palm is used for the gedabak instead of finger plucking. It is a representation of the gong ensemble from Bidayuh's Jagoi drum. The opening at the tube's end, known as the gedabak, can be covered by the hand to create a drumming sound. Men and women can both play sretong and pretong.

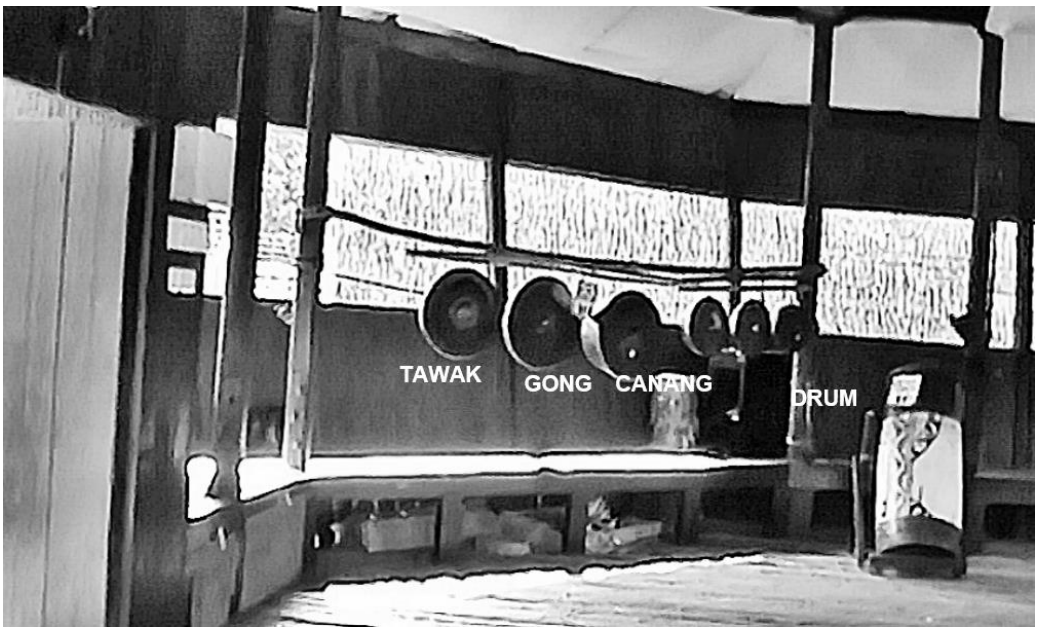

Figure 5: The gong set of Bau Bidayuh recorded at the baruk in Santubong Sarawak, used as cross reference with the three string pretong of Bau[13]

In relation to the playing of these gongs, each set requires special beaters. The description of the gongs ranges from the physical outlook, specific beaters used, and sharing a similar name as well as voice function.

[13] Jehet, Christoper and A.F. Musib. 2012. Personal communication in Santubong, Sarawak, Malaysia. ARCPA01677: 00:00:00-00:08:18.

Figure 6a and 6b: The pretong of Bidayuh-Jagoi (left) played by Christopher Jehet at the baruk in Santubong Sarawak (right).

Bidayuh Biatah, Padawan Subdistrict, Sarawak, and their Pratuokng

Figure 7: Kupuo Saba two, Annah Rais, Padawan, Sarawak (photograph by the author).

Annah Rais, located in a highland surrounded by tropical rainforests rich in various bamboos, primarily uses this natural resource for building and

refurbishing the terraces of the village kupuos[14]. Each longhouse, built on a kupuo in Annah Rais, is fitted with a reasonably large tanjuk[15], which is essential for the community's socioeconomic activities. The kupuo's entire structure is bamboo (Figure 7). The tube zithers were traditionally made during the drying yard's construction and repair. The pratuokng, also called aguokng tarikng (bamboo gong), which was[16] once made as a toy out of repair or construction leftovers, has now become a widely respected and symbolizing musical instrument of the Bidayuh Biatah. The pratuokng is classified according to von Hornbostel and Sachs[17] as an idiochord tube zither and is made of giant bamboo known as patukng or betung. Kupuo Saba gongs and the pratuokng (Figure 9) share the same canang, satuk, and tawak sound faculties. Interestingly, the pratuokng's named strings, such as the canang, tawak, and a version of the satuk, sound an octave higher than the gong set.

THE FORBIDDEN GONGS AND THE ACCEPTANCE OF THE PRATUOKNG OF THE BIDAYUH

Whether the voice functions on a gong set resemble the string voices on a pratuokng or the contrary is a topic of debate in the literature on tube zithers, including the pratuokng. Could the Bidayuh Biatah gong sets discovered in kupuo Saba in Annah Rais be the source of how pratuokng is made? The following is an excerpt from an interview with Borman, which describes the group of voices that come from the neighborhood gong set:

> "We refer to the three different gong types as canang, satuk, and tawak. We have three canang pieces, three satuk pieces, and two tawak pieces here for

[14] Kupuos are intersections of terraces on which the longhouse is built. Some villages, such as Annah Rais, have more than one kupuo.

[15] The tanjuk of a kupuo is only the terrace section of any kupuo and includes the central oven places and drying yards.

[16] Borman, Arthur and Ahmad Faudzi Musib. 2011-2013. Personal communication in Annah Rais, Sarawak, Malaysia and via e-mail in the time between 5 July–30 September 2013.

[17] von Hornbostel, Erich M. and Curt Sachs. 1914. Systematik der Musikinstrumente. Ein Versuch. *Zeitschrift für Ethnologie (ZfE) and Journal of Social and Cultural Anthropology* (JSCA) 46 (4/5): 553-590.

these pieces. [using the six string pratuokng of Annah Rais on the 14th of June 2011 as a cross comparison with the gong set recorded at kupuo Saba]".[18]

Figure 8: Gong set recorded at kupuo Saba is used as a cross reference with the six-string pratuokng of Annah Rais on 14th June 2011.

Borman continuous:

> "The recordings of Gawai Panggah, Bidayuh Biatah, Bidayuh Selakau, Lara, and Bidayuh Lara that were collected in Annah Rais between the late 80s, particularly between 1988 and 1998, are still preserved in their original surroundings, with one example being a recording made on 14 June 2011, in Kupuo Saba. Three groupings of gongs make up a set. Similar gong-like patterns can also be seen on the pratuokng. A group of musicians is required to play the gongs as an ensemble, with each musician playing the canang, satu(k), and tawak. The owner and the villages are subject to several restrictions due to the Bidayuh gongs. Because Annah Rais' descendants forbade playing the gong on numerous occasions, it is a tradition passed down from generation to generation. Restrictions include the birth of a child or the death of any long-house family member."

Other intriguing information provided by Arthur is that "the pratuokng will be an alternative if there are not enough players to play the gong set."[19] The minimum number of gong players is four, but Arthur notes that there are typically six players in a gong set. Arthur added:

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[18] Borman, Arthur and A.F. Musib (2011). Personal communication in Annah Rais, Sarawak, Malaysia. ARCPA1898: 00:00:09-00:00:32.

[19] Borman, Arthur and Ahmad Faudzi Musib. 2011-2013. Personal communication in Annah Rais, Sarawak, Malaysia and via e-mail in the time, 5 July–30 September 2013.

> "Assuming the four gong players are skilled enough to accommodate the voicing of the gongs and playing in syncopated beat against the other players. As opposed to a normative system that is used to teach, as I had anticipated, the substitution of the gong set allows the pratuokng to achieve acceptance by the community, especially among the older generation of the Bidayuh in Annah Rais"[20]

The pratuokng is a convenient instrument that enables musical pratuokng performances to be carried out when the performance is being performed with a minimum of two pratuokng players and one single-headed drum called a gaduokng. The following table is the sound representation of a single pratuokng and its pitch.

Strings	Pitches as seen in FFT	Pitches as heard	Name	Playing technique	Playing Hand
1	Ab 3	G#3	*Canang 1*	Beating	Right Hand
2	B 3	B3	*Canang 2*	Beating	Right Hand
3	Db3	C#3	*Canang 3*	Plucking (thumb)	Left Hand
4	Eb3	D#3	*Satuk 1*	Beating	Right Hand
5	Gb3	F#3	*Satuk 2*	Beating	Right Hand
6	Ab4	G#4	*Tawak 2*	Beating	Right Hand
7	Ab3	G#3	*Tawak 1*	Hand slapping	Left Hand

Figure 9: Table showing the pratuokng and its pitches.

REPERTOIRE

Other interesting facts that Borman mentioned are the following:

> "if there are not enough players to play the gong set, the pratuokng will be an alternative". "The minimum number of gong players is four, provided the four gong players are trained enough to accommodate the voicing of the gongs and playing in syncopated rhythm against the other players, […] the usual number of players playing the gong set is six".[21]

Since the pratuokng is handy, this instrument allows for musical performances of the pratuokng to be carried out during the performance with only two

[20] Borman, Arthur and Ahmad Faudzi Musib. 2011-2013. Personal communication in Annah Rais, Sarawak, Malaysia and via e-mail in the time, 5 July–30 September 2013.

[21] Borman, Arthur and Ahmad Faudzi Musib. 2011-2013. Personal communication in Annah Rais, Sarawak, Malaysia and via e-mail in the time between 5 July–30 September 2013.

pratuokng players and one single-headed drum called gaduokng. The following is a table listing (Figure 10) the pieces played using the pratuokng pieces that share a similar repertoire in both investigated constructions such as the gong ensemble and the pratuokng performances.

	Name of the pieces in Bidayuh Biatah language
1	Pingadap and/or Penyambut
2	Ti-tiek nunuo'
3	Simangi binua
4	Kangkuk
5	Tak taki' taup daka
6	Sinayietng
7	Bua' jug

Figure 10: The pieces that share the repertoire for both gongs and pratuokng.

PINGADAP AND/OR PENYAMBUT

One of the pieces the group will perform to welcome guests to the village is Pingadap or also named Penyambut. It consists of a dancer and two or more players. The fundamental pattern below is presented in western notation using piano clefs for analysis. The piece Pingadap or Penyambut, which translates to 'Greetings', was transcribed for a single pratuokng. The central theme is performed alternately by canang 1 and 2 and satuk 1 and 2 on the pratuokng, as indicated on the treble clef. The performer may change the theme to provide variants. The five rhythmic patterns recommended by Arthur Borman (Figures 10, 11, and 12) are located at the bass clef, on the other hand. The tawak one drum and tongue rhythm pattern, usually played twice each, is similar to the theme that each tawak pattern may be played alternately.

The syncopated rhythm is more audible as it sonically transmits some low-pitched vibration to the kupuo frame rather than to the tubes. When playing in a group of two or more people, the accentuated patterns gave the dancer complete confidence to move from one gesture to the next as she represented greetings to the audience as a visitor to the community.

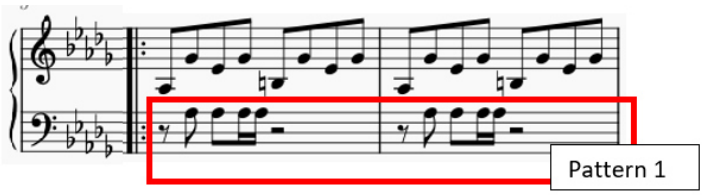

Figure 11: Penyambut tawak pattern 1 (transcribed by Ahmad Faudzi Musib September 2022).

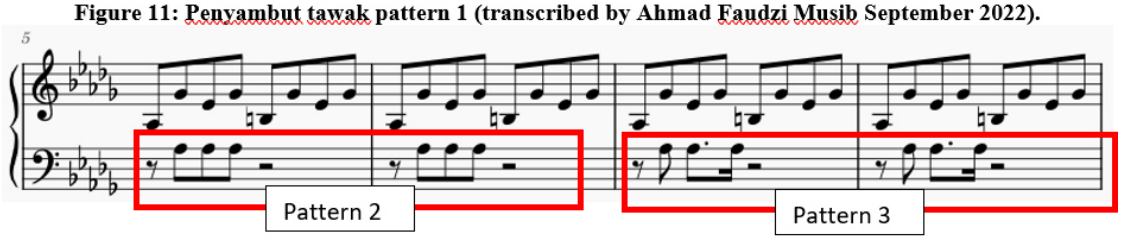

Figure 12a: Penyambut tawak pattern 2 and 3 (transcribed by the author in September 2022).

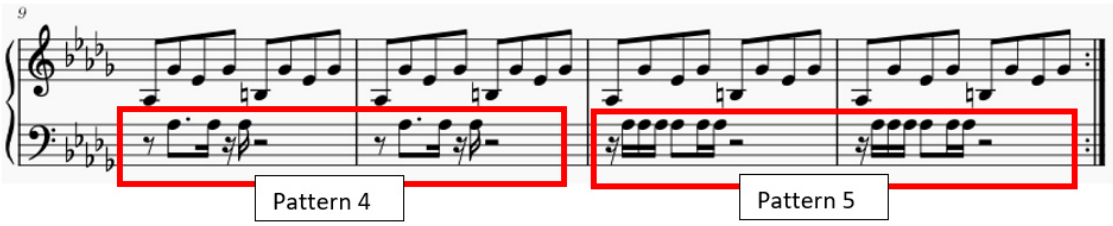

Figure 12b: Penyambut tawak patterns 4 and 5 (transcribed by the author in September 2022).

USAGE OF TAWAK IN PRATUOKNG AND GEDABAK IN PRETONG

The sizes were small in comparison to Annah Rais' bamboo tube zither. Jehet claims that the pretong he uses is always a five-string instrument[22]. The playing techniques differ, mainly in how musicians handle the pretong[23]. The images below show two different tube zithers being used to demonstrate the techniques of playing the pratuokng of Annah Rais and pretong Bau (Figure 13).

[22] Jehet, Christoper and A.F. Musib. 2012. Personal communication in Santubong, Sarawak, Malaysia. ARCPA01677: 00:00:00-10.

[23] Jehet, Christoper. 2012. Personal communication in Santubong, Sarawak, Malaysia. ARCPA01677: 00:00:30–34.

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Figures 13a (left) and 13b (right): Abas Ringap demonstrating the body posture of playing the pratuokng. The left hand is beating the drum tongue. (Right) Christopher Jehet is demonstrating the body posture of playing the pretong among the Bidayuh Jagoi in Bau at Santubong. The left hand is opening and closing the open node that is called gedabak.

The pratuokng musician's left hand serves two functions in Annah Rais: first as a beater beating the drum tongue to create a basic rhythm pattern and then plucking the string representing the main tawak of a gong ensemble. The Annah Rais musician, Abas Ringcap, here is resting the pratuokng on the musician's left thigh.

Figures 14a (left) and 14b (right): Beating of the drum tongue for rhythm patterns and plucking the string using the thumb. The left hand serves two functions: first as a beater beating the drum tongue, known as tawak 2, of the Annah Rais' pratuokng to create a basic rhythm pattern and then plucking the

string as tawak 1. Abas Ringap here is resting the pratuokng on the musician's left thigh. (Right): Alternating 'open and covering' of the sound radiators, with the intention to derive some rhythmic patterns.

Unlike in Bau, the pretong instrument is placed high on the left thigh, in line with the edge of the left foot, with the right leg slightly raised. A 45-degree trajectory is created by stopping the pretong with the musician's right heel, enabling the musician to use the left palm's gedabak effect more precisely and consistently. The pretong strings are hammered with a long beater, and the left-hand palm alternately opens and closes the node (gedabak) in a syncopated rhythm. As shown in 14a (left), Abas Rincap in Annah Rais beats the drum tongue for rhythm patterns and plucks the lower string with his left thumb. Alternating opening and covering of the sound radiator of the pretong of the Bidayuh Jagoi in Bau, as shown in Figure 14b (right), is done with the same intention of generating rhythmic patterns from changing timber and resonance characteristics.

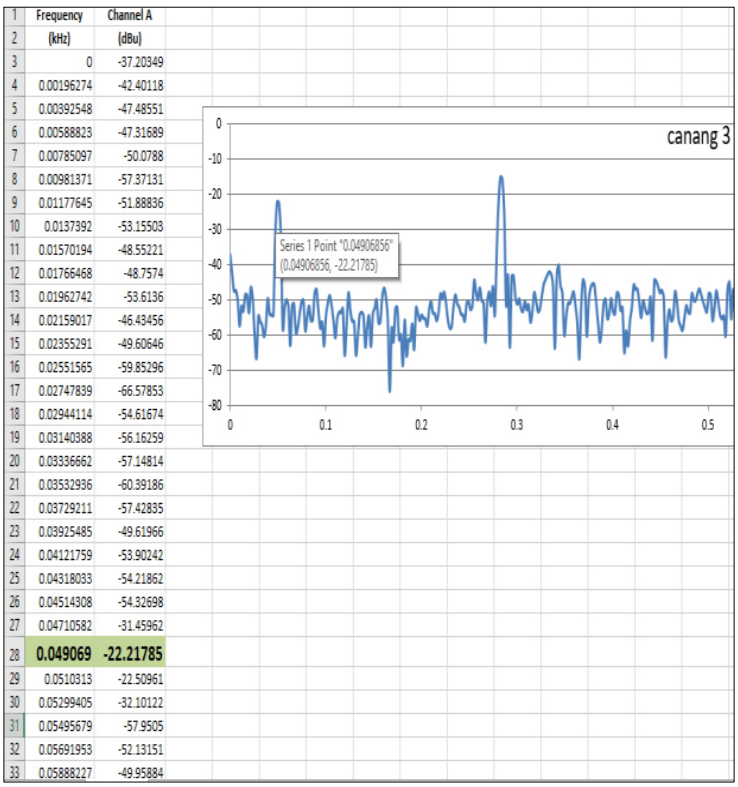
Fundamental Frequencies as Monitoring References

Other exciting outcomes drive the PicoScope analyzer based on the results of a pratuokng's frequency spectrum analysis. Here, the pratuokng generates 49 Hz throughout (Figure 16a–16e), but pitches can be heard clearly (Table 3). Hence, it is concluded that the pitches heard from pratuokng are derived from the overtones. The fundamental vibrates at 49 Hz and then serves as the monitoring beat for the musician and the dancer due to its relative loudness caused by the long and very tense idiochord string. Both the musician and the dancer performed on the kupuo of a longhouse.

In basic acoustics, fundamentals can be produced by vibrating the entire string length or air column or selecting a higher harmonic. One of the harmonics is fundamental. Any element of the harmonic series, an ideal set of positive integer multiples of a standard fundamental frequency, is referred to as a

harmonic. A fundamental is also termed a harmonic because it is one time itself[24].

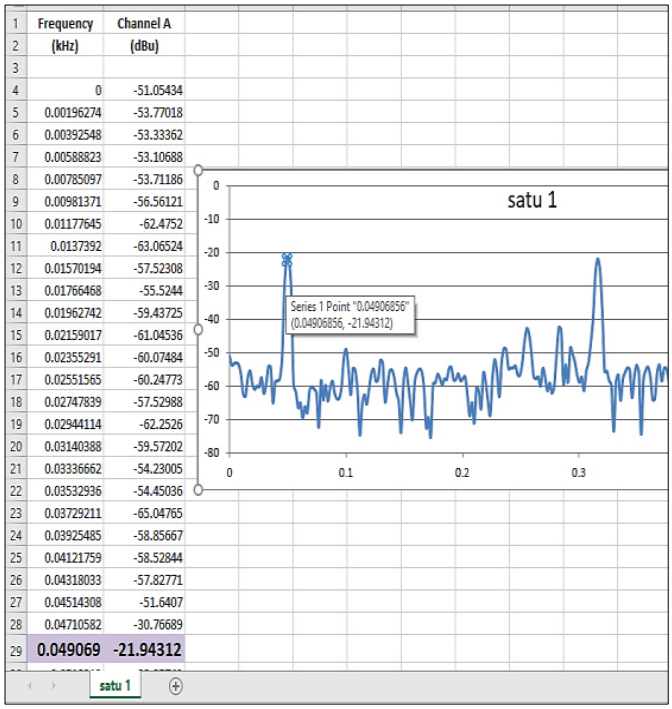
Figures 15a and 15b: Peyambut is the name for a dance piece. It is here accompanied by two Bidayuh Biatah pratuokngs (photographs by the author, 2013).



	Frequency (kHz)	Channel A (dBu)
3	0	-37.20349
4	0.00196274	-42.40118
5	0.00392548	-47.48551
6	0.00588823	-47.31689
7	0.00785097	-50.0788
8	0.00981371	-57.37131
9	0.01177645	-51.88836
10	0.0137392	-53.15503
11	0.01570194	-48.55221
12	0.01766468	-48.7574
13	0.01962742	-53.6136
14	0.02159017	-46.43456
15	0.02355291	-49.60646
16	0.02551565	-59.85296
17	0.02747839	-66.57853
18	0.02944114	-54.61674
19	0.03140388	-56.16259
20	0.03336662	-57.14814
21	0.03532936	-60.39186
22	0.03729211	-57.42835
23	0.03925485	-49.61966
24	0.04121759	-53.90242
25	0.04318033	-54.21862
26	0.04514308	-54.32698
27	0.04710582	-31.45962
28	**0.049069**	**-22.21785**
29	0.0510313	-22.50961
30	0.05299405	-32.10122
31	0.05495679	-57.9505
32	0.05691953	-52.13151
33	0.05888227	-49.95884

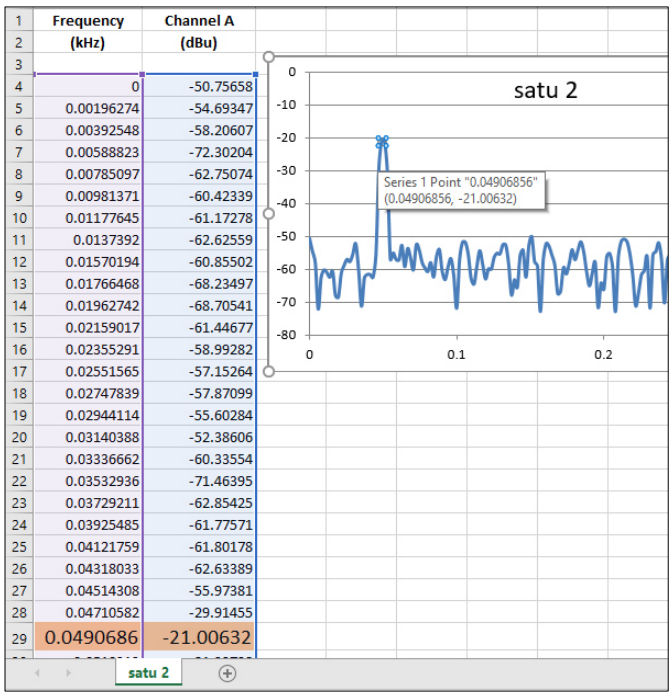
Figure 16a: Canang 3 at 49Hz = C#3 and +38.

[24] Pierce, John R. 2001. Consonance and Scales. Music, Cognition, and Computerized Sound – An Introduction to Psychacoustics. Edited by Perry R. Cook. Cambridge: MIT Press, 167-186.



Frequency (kHz)	Channel A (dBu)
0	-51.05434
0.00196274	-53.77018
0.00392548	-53.33362
0.00588823	-53.10688
0.00785097	-53.71186
0.00981371	-56.56121
0.01177645	-62.4752
0.0137392	-63.06524
0.01570194	-57.52308
0.01766468	-55.5244
0.01962742	-59.43725
0.02159017	-61.04536
0.02355291	-60.07484
0.02551565	-60.24773
0.02747839	-57.52988
0.02944114	-62.2526
0.03140388	-59.57202
0.03336662	-54.23005
0.03532936	-54.45036
0.03729211	-65.04765
0.03925485	-58.85667
0.04121759	-58.52844
0.04318033	-57.82771
0.04514308	-51.6407
0.04710582	-30.76689
0.049069	-21.94312

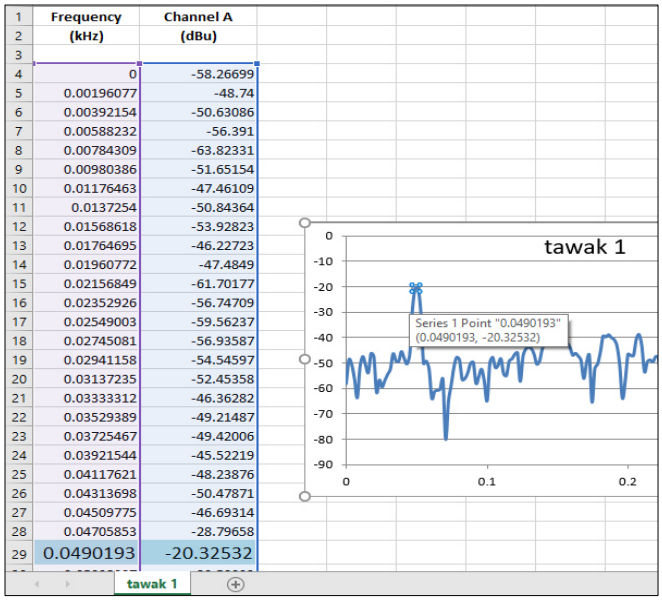
Figure 16b: Satuk 1 at 49Hz =D#3 and +10 cent[25].



Frequency (kHz)	Channel A (dBu)
0	-50.75658
0.00196274	-54.69347
0.00392548	-58.20607
0.00588823	-72.30204
0.00785097	-62.75074
0.00981371	-60.42339
0.01177645	-61.17278
0.0137392	-62.62559
0.01570194	-60.85502
0.01766468	-68.23497
0.01962742	-68.70541
0.02159017	-61.44677
0.02355291	-58.99282
0.02551565	-57.15264
0.02747839	-57.87099
0.02944114	-55.60284
0.03140388	-52.38606
0.03336662	-60.33554
0.03532936	-71.46395
0.03729211	-62.85425
0.03925485	-61.77571
0.04121759	-61.80178
0.04318033	-62.63389
0.04514308	-55.97381
0.04710582	-29.91455
0.0490686	-21.00632

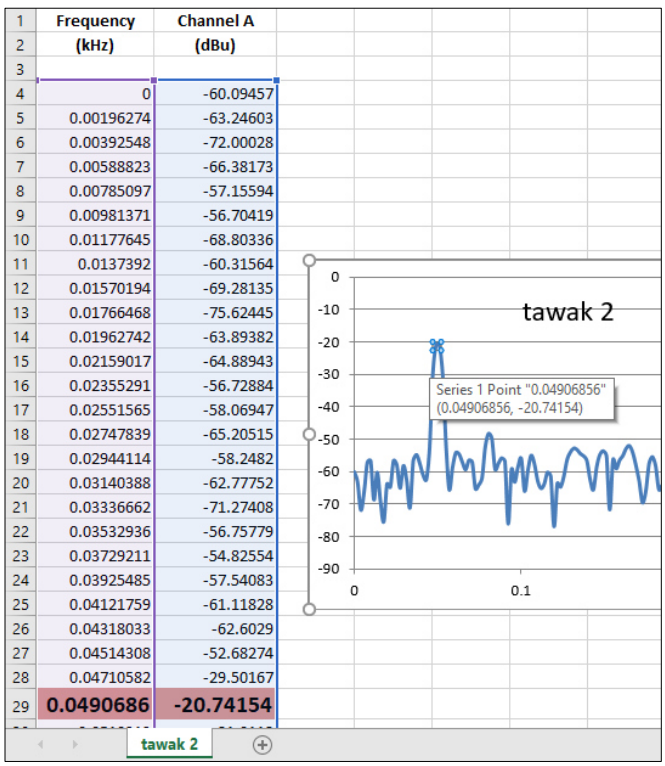
Figure 16c: Satuk 2 at 49Hz =F#3 and -20 cent.

[25] Here is used the term satu instead of satuk. In means the same, just in different spellings according to what was heard. Satuk is written when indicating a hard ending of the consonant 'u'. The 'k' indicates a glottal stop. In measurements this is less important.



Frequency (kHz)	Channel A (dBu)
0	-58.26699
0.00196077	-48.74
0.00392154	-50.63086
0.00588232	-56.391
0.00784309	-63.82331
0.00980386	-51.65154
0.01176463	-47.46109
0.0137254	-50.84364
0.01568618	-53.92823
0.01764695	-46.22723
0.01960772	-47.4849
0.02156849	-61.70177
0.02352926	-56.74709
0.02549003	-59.56237
0.02745081	-56.93587
0.02941158	-54.54597
0.03137235	-52.45358
0.03333312	-46.36282
0.03529389	-49.21487
0.03725467	-49.42006
0.03921544	-45.52219
0.04117621	-48.23876
0.04313698	-50.47871
0.04509775	-46.69314
0.04705853	-28.79658
0.0490193	-20.32532

Figure 16d: Tawak 1 at 49Hz =G#3 +44 cents.



Frequency (kHz)	Channel A (dBu)
0	-60.09457
0.00196274	-63.24603
0.00392548	-72.00028
0.00588823	-66.38173
0.00785097	-57.15594
0.00981371	-56.70419
0.01177645	-68.80336
0.0137392	-60.31564
0.01570194	-69.28135
0.01766468	-75.62445
0.01962742	-63.89382
0.02159017	-64.88943
0.02355291	-56.72884
0.02551565	-58.06947
0.02747839	-65.20515
0.02944114	-58.2482
0.03140388	-62.77752
0.03336662	-71.27408
0.03532936	-56.75779
0.03729211	-54.82554
0.03925485	-57.54083
0.04121759	-61.11828
0.04318033	-62.6029
0.04514308	-52.68274
0.04710582	-29.50167
0.0490686	-20.74154

Figure 16e: Tawak 2 at 49Hz = G#3 +19 cents. (All figures 16 are measurements undertaken and depicted by the author).

Fundamental and overtone peaks	Frequency (in Hertz)						
	Canang 1	Canang 2	Canang 3	Satuk 1	Satuk 2	Tawak 1	Tawak 2
1st	206	37	49	49	49	49	49
2nd	235	215	282	316	282		367
3rd	414	255	849	653	369		421
4th	510	294		983	775		
5th	642	471					
6th	880	512					
7th		549					
8th		728					
9th		767					
10th		983					

Figure 17: Table of the frequencies of varying peaks from the different pratuokng strings of the Bidayuh Biatah.

Canang 3, satuk 1, satuk 2, tawak 1, and tawak 2 all have the same fundamental frequency, 49 Hertz. As a result, the overtones, or second peaks, significantly affect the sound. However, because canang 3 and satuk 2 have comparable second peak values, namely, 282 Hertz, the third peak of canang 3 and satuk 2 makes the sound difference considerable.

CONCLUSION

The Bidayuh Biatah people of Annah Rais still play their pratuokng on the kupuo in their longhouse environment different from the playing of the Bidayuh in Bau, although both are essential and symbolic string instruments. A double-up of the drum tongue and the gaduak, together with loud-sounding, low-pitched, and huge tube zithers, produces enough vibrations to fill the entire kupuo, according to findings on pratuokng in Annah Rais.[26] Based on the harmonic analysis, this investigation makes clear that the loud-sounding strings and tongue vibrations are used as audible monitors by other musicians and dancers to keep timely rhythms with the music. In exchange, the sound enhances the awah, an open area used for performances.

The rapid growth of socioeconomic conditions and the further development of rural areas such as Annah Rais call for a larger living space. Indeed, no spatial contexts in the living areas (the three kupuo Terakan, Sijo, or Saba) will exist in the future. If they were, it would just be a replica or piece of memorabilia like the one in the Sarawak cultural village Santubong. The exploration of acoustic space qualities and the possibility to document each of

[26] Musib, Ahmad Faudzi. 2014. *Contextual Sound Preservation of Local String Instruments*. PhD thesis dissertation. Serdang: Universiti Putra Malaysia. Unpublished manuscript.

these spaces accordingly is an honourable achievement for future approaches in sound preservation, which is equally essential to cultural history as facts and material items. Assessing an instrument's capacity to reproduce sound within the confined space of its faculty from the standpoint of sound preservation draws the listener's attention to larger acoustic spaces. It is obvious when recording music with multiple sound sources as opposed to expecting the content to come together with the atmosphere of studio recording quality.[27] The research is assertive toward conditioning researchers, social scientists, field recordists, audio engineers, and musicians of the community and their different sound perceptions that may result in a multi-perspective view of acoustic events.

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GLOSSARY OF SOME TERMS[28]

Baruk

The baruk has endured as the community's focal point. The old skulls from the days of headhunting are reverently set above the fireplace in the center of the hall. The village chief and elders meet with the people to discuss local politics and community issues; festivals are held, and shamans conduct ceremonies. Previously, battle drums and gongs were stored at the headhouse. Nowadays, they are mainly used for festivals.[29]

Gawai

The Gawai is celebrated by indigenous people in Sarawak such as Iban, Bidayuh, Kayan, Kenyah, Lun Bawang, and Kelabit. Since 25th December 1964, indigenous people are given a state level public holiday on 1st and 2nd June each year.[30]

Tawak 2 of the Pratuokng

Tawak 2 is similar to a drum in a gong ensemble. The musician's left arm palm strikes tawak 2, which imitates the drum pattern of a gong ensemble. This is often followed by plucking the tawak 1 string of the tube zither. The entire gong ensemble is related to the tawak strings because the drum tongue generates a frequency and pitch that are similar to those of tawak 1 of Bidayuh gong ensembles.[31]

REMARKS

All depictions were printed with permission.

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[28] Here are some terms mentioned that were not especially explained in the body of the article's text.

[29] Invernizzi, Luca, Luca Invernizzi Tettoni, and Edric Ong. 1996. *Living in Sarawak*. London: Thames and Hudson: 109.

[30] Tugang, Noria et al. 2022. Warisan Miring dalam Masyarakat Iban di Malaysia. Kuching: UNIMAS Press. 135, 154-155; Ooi Keat Gin (2018). *Historical Dictionary of Malaysia*. 2nd Edition. Lanham, London, New York: Rowman & Littlefield.

[31] Musib, Ahmad Faudzi. 2021. The Annah Rais Pratuokng and the Practical Appearance of Re-invented Musical Instruments. *SIMP* [*Studia Instrumentorum Musicae Popularis, New Series*], 7. Edited by Gisa Jähnichen. Berlin: Logos, 91-112. DOI: 10.30819/5319.07.

A DIALOGUE WITH A LONELY ZITHER: SOCIAL APPLICATIONS AND SYMBOLIC MEANINGS OF THAI *JAKHAY*

Pornprapit Ros Phoasavadi[1]

ABSTRACT

This study examines the construction, social use, and symbolism of the *Jakhay*, a plucked zither played in central Thailand. This type of zither is highly regarded among traditional Thai music players and plays an important role in string ensembles, which perform at New Year celebrations, wedding competitions, and house warming ceremonies. The study also explores how the zither was negotiated from a respected cultural practice to use in a more flexible context, where it has grown and played since 2000 with techniques and tones. Through interviews with three players, this study discusses the symbolism of the zither and its relation to the traditional diatonic and 12-tempered scales. The auspicious meaning and the use of animal parts to name the parts of the zither, the material of the zither, and the construction process reflect the traditional customs of Thailand.

KEYWORDS

Zither, Thai music, String ensembles, Crocodile as symbol, Contemporary issues

INTRODUCTION

This article is about a dialogue with a zither from central Thailand, called *Jakhay*. I will examine the social applications and symbolic meanings of a

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Pornprapit Ros Phoasavadi. 2023. A Dialogue With A Lonely Zither: Social Applications and Symbolic Meanings of Thai Jakhay. *Musical Bows and Zithers along the Great Silk Road.* Edited by Xiao Mei and Gisa Jähnichen. Berlin: Logos, 83-92.

plucked zither in Thailand. This type of zither[2] is highly venerated among Thai traditional musicians and plays an important role in a range of stringed ensembles which perform at New Year celebrations, weddings, competitions, and house-warming ceremonies.

I will also explore how the zither is negotiated to move around and away from venerated cultural practices to be immersed in a more flexible context. The zither was developed and changed its playing techniques and sound qualities beginning in the year 2000. The presentation draws upon interviews with practitioners who discuss the zither's symbolic significance through beliefs that link it to traditional diatonic tuning and a 12-tone equal temperament chromatic scale.

The article is divided into a number of sections:

First, it deals with the background of *Jakhay* including parts of the *Jakhay.* Investigated are also social meanings of *Jakhay* players in Thailand.

Therefore, second, I will discuss the idea of incorporating an animalistic shape to a musical instrument. This section will include a discussion on beliefs of crocodiles and their social meanings in Thailand.

Next, I will show how a musical instrument was introduced to children's cultures as a toy and a character in animation.

Finally, I will discuss the transformation of a musical instrument adopting a chromatic scale. Will loneliness be treated and the *Jakhay* will then become more visible and audible to Thai and international audiences? What are the cultural and musical ramifications of adopting a chromatic scale?

FEATURES OF THE CROCODILE

Jakhay is a three-stringed zither. It is made of a jackfruit tree. There are 11 fixed frets. The body of the *Jakhay* resembles a crocodile. The role of a *Jakhay* in a Thai string ensemble serves as a memory of the ensemble. While a gong wong yai in a piphat ensemble plays the main melodies for the other instruments to make variations on the gong wong yai melodies, the *Jakhay* serves such a role of gong wong yai in a string ensemble.

A *Jakhay* player makes a sound by pressing his/her finger on a string that hovers on separate frets. The index, middle, and ring fingers of the left hand

[2] von Hornbostel, Erich M.; Sachs, Curt 1961. Classification of Musical Instruments: Translated from the Original German by Anthony Baines and Klaus P. Wachsmann. The Galpin Society Journal, 14: DOI:10.2307/842168 .

are allowed to press on the fret. Thumb and little fingers are used when special techniques are employed. Together with pressing a string, a player needs to pluck or strum on each string with a plectrum that is tied to the index finger of the right hand. This is a traditional playing technique. The sitting position for a *Jakhay* player is also a signifier of styles and schools to which each player belongs to.

There are two major schools of *Jakhay* styles. The first school dates back to Kru Thongdee Sujaritkul, who contributed to playing techniques, sitting position, and fingering style. The second school is Kru Ratree Wisetsurakan. By physical and visible examinations, the body postures differentiate the two schools. First, sitting with two legs pointing to the right side indicates Kru Thongdee Sujaritrul's style. Second, the arch of the left fingers pressing the fret indicates Kru Thongdee's school, whereas Kru Ratree's style focuses on the straight and stretching fingers of the left hand hovering over the three strings.

Let us take a look at the eight parts of *Jakhay*.

1. Lug bid is a tuning peg.
2. Rang mai is a string socket using silk strings in the past and nylon strings today.
3. Yong is an upper bridge.
4. Nom is a fret. In Thai, the word nom means nipples. In this case, it refers to a crocodile's nipple. On a *Jakhay*, there are altogether 11 fixed frets.
5. Toh is a lower bridge.
6. Nae is the most important part of the *Jakhay*. It is made of the outer skin of bamboo. The sound quality of a *Jakhay* depends on the support of Nae under the strings.
7. Thao is the foot.
8. Sai is a string.

Figure 1(left): Silhouette of a crocodile. Free clipart. Figure 2 (right): *Jakhay* exhibited in the world Music Center of UCLA.[3] Printed with permission.

Two of these *Jakhay* parts match the crocodile's: the nipple and the foot. While Burmese, Mon, and Cambodian zithers are found in a full crocodile shape and size with their snout, tail, and scaly skin, the Thai zither has none of those appearances. In a Thai folktale, there was a great crocodile that lived in an underwater cave and possessed a magic power to transform his

[3] Adler, Supeena Insee. 2016. The Southeast Asian Jakhee. Accessible via: https://centerforworldmusic.org/2016/11/jakhee/, last accessed 27th June, 2023.

animalistic body into a human being. He came ashore attacking people and snatching a human girl back to his cave to be his wife. The aggressive and fierce behavior of the crocodiles together with their sharp and strong teeth able to bite off a man's limbs give bad attitudes to the villagers who considered them dangerous predators.

Meanings of the Crocodile

However, in a religious context, the crocodile appears in the flag signifying the Kathin ceremony performed once a year for each temple within 1 month after the end of the Buddhist Lent from the 1st day of the waning moon of the 11th lunar month to the 15th day of the waxing moon of the 12th lunar month or around mid-October to the first part of November. The ceremony was originally meant to present new robes for monks, but later, it was developed to fundraise for the temple to help cover the temple's expenses on utility bills, and its repairing costs, including building some public utilities such as bridges for the community. The Kathin ceremony is the biggest and most important merit-making of the year, usually donated by a group of devotees. After the ceremony, the crocodile flags together with three other flags of Kinnaree, centipede, and turtle are put up around the temple, signifying that the temple has already received the Kathin offerings so that passers-by can rejoice with the merit-making and other devotees who want to donate a Kathin offering can choose some other temple.

The crocodile on the Kathin flag is depicted holding three lotus buds. The crocodile represents greed as crocodiles are often seen lying with their mouths wide open, waiting for flies. Once enough flies gather, they snap their mouths shut, swallowing all the flies. The behavior shows the greed of the animal in grabbing as much as they can. For the three lotus buds, they can be assumed with two meanings. They may be to worship the Buddhist Triple Gems, or according to Buddha's teaching, they may signify three groups of people who can achieve enlightenment regarding their level of ability: first, the genius or persons with quick intuition who are compared to the lotus bud risen above water ready to bloom; second, the intellectual or persons who understand after a detailed treatment, compared to the lotus bud at the surface of the water which will bloom the next day; and third, the guidable or persons who understand after some guiding, compared to the lotus bud under water which will bloom later.

Besides, there is a story told of a very rich man who grabbed every occasion to make money. As he was stingy, he never made merit. He hid all his treasure at the waterside in front of his house without his family knowing. Careworn about his wealth, when he passed away, he reincarnated as a crocodile

guarding it. As time went by, he suffered living in the water guarding the treasure uselessly. Therefore, he went to his wife in her dream telling her about the hidden treasure and asked her to dig it up and make good use of it by making merit so that the good deeds would reward him with a better life, ending the sufferings of the present life as a crocodile. After waking up, his wife dug up the treasure, loaded it in a boat, and went to donate it to a temple. The crocodile followed the boat hoping to witness the merit-making and to receive the dedication of merit-making from his wife, but he was too tired to reach the temple, so he asked his wife to paint his picture, a crocodile, on a flag and brought it to the temple instead, and that is the origin of the crocodile flag in Kathin ceremony.

Though beliefs and religious symbolic meanings of crocodiles should be further investigated, the crocodile,[4] considered an animal of virtues, was adopted in inventing a Thai traditional musical instrument, *Jakhay*, since the Ayutthaya period. It is a creative idea combining sonorous concepts and a religious trait and linking nature to the culture in one musical instrument. Thus, in a way, the crocodile involves in Thai musical practices from an instrument, playing techniques, and repertoires

The crocodile has also been adopted by the PlanToy factory in Thailand as a friendly character to children. Turning an aggressive crocodile into a cute playful toy, the director of PlanToy described that his factory aimed at providing the safest toy for children by selecting organic materials to create and design a toy to stimulate a child's cognitive and learning development. The toy is a set of wooden clappers put together into the shape of a crocodile with a rope tied to its body. When a child pulls this cheerful pull-along toy, the wooden pieces make a rhythmic click-clacking sound as its body bobs up and down. According to the PlanToy factory in Thailand, the toy, called the dancing alligator, is the best buy among other toys in the past 5 years and the wooden alligator has become a landmark of the factory painted on its trucks since then.

[4] More information can also be found in: Brandeis, Hans. 2022. Boat Lutes in the Visayan Islands and Luzon. Traces of Lost Traditions. Extended and revised version from 2012. Musika Jornal 8: 2-103. Accessible via https://www.academia.edu/3038693/Hans_Brandeis_Boat_Lutes_in_the_Visayan_Islands_and_Luzon_Traces_of_Lost_Traditions_2012_2022_. Last accessed, 18th June, 2023.

Discussing the Crocodile Today

An ongoing project is being developed at the Faculty of Fine and Applied Arts at Chulalongkorn University to introduce Thai musical instruments to children under the age of 10. In the project, a friendly and cheerful version of the crocodile has been developed as part of an animation project where a senior lecturer in the Thai traditional music department of the Faculty of Fine and Applied Arts at Chulalongkorn University creates a story of the crocodile which will be used in the animation that is expected to be launched in May 2023.

The story goes that there is a friendly crocodile who lives in a large idle pond in the village of Thai instruments. One cold day, the friendly crocodile floated on the pond's surface looking to play with the villagers. However, whenever people saw him, they all ran away screaming because of his scary and fierce appearance, even though he never bit or hurt anyone. The crocodile swam near the shore of the Thai musical instruments village. He saw Master Flute, Miss Dulcimer, Mister Cymbal, and Mister Drum joyfully playing music together. The crocodile loved the music and swam closer to the performers hoping to join in the performance, but the Thai instruments were afraid of him and refused to let him participate in their band because of his fierce look. Therefore, the friendly crocodile turned himself into a Thai musical instrument called *Jakhay*, which is played up until today.

Figure 3a (left): Thirty-five *Jakhay* players perform at the funeral of their music teacher, Thaungdii Sujaritkul.[5] Screenshot from a personal video with permission. Figure 3b (right): The *Jakhay* as it is played currently. Printed with permission from slideshare.net.[6]

From the stories concerning the crocodile and a kind of Thai instrument called *Jakhay*, questions are raised about why the crocodile is adopted by instrument makers. Does the musical instrument with the crocodile shape represent the transformation of the mind from being aggressive to being pleasant and kind?

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[5] Adler, Supeena Insee. 2016. The Southeast Asian Jakhee. Accessible via: https://centerforworldmusic.org/2016/11/jakhee/, last accessed 27th June, 2023.

[6] https://www.slideshare.net/AllannaUnias/instruments-12320961/, last accessed 27th June, 2023

Is there a religious riddle embodied within a musical instrument? What does it signify when the *Jakhay* does not have a wide-open mouth and scary teeth? On the contrary, frets are put on the upper side of *Jakhay*'s body and are referred to as nipples, despite that crocodiles do not have breasts and nipples. These creative details mark the new variation of animalistic character in the musical realm.

The resonating box and the body of *Jakhay* which is in the shape of an animal are symbolic, graceful, and acoustic rendered. The absence of an open mouth, sharp teeth, and a tail mean the animal has become a sacred piece in the realm of musical instruments and is highly regarded and worshiped. In its conventional style and scale, a *Jakhay* consists of 11 frets that give unique sounds. However, when musical techniques other than the Thai traditional one are used, *Jakhay* is removed from the ensemble because its frets are fixed and render only the Thai heptatonic scale. Accordingly, *Jakhay* is always kept away from any kind of experimental piece because of its said nature. In 2010, there was an attempt to invent a new version of *Jakhay* that could accommodate tunes in chromatic scales so that a *Jakhay* can be part of a featured instrument as a member of a contemporary Thai ensemble.

The new version of *Jakhay* again raises questions: Has the identity of *Jakhay* transformed when it does not play a conventional scale? Does the *Jakhay* lose its conventional right to join the village as a traditional musical instrument? Would the *Jakhay* be welcome to the new world and be able to return to the home of 11 fret instruments?

One of the talented *Jakhay* players was interviewed. His name is James Louis Gordovez Ordanel, a Filipino who came to live and studied in Thailand when he was 7 years old. He is a student of the Faculty of Fine and Applied Arts, Chulalongkorn University, a guitarist, and an award-winning player of traditional *Jakhay*, and chromatic *Jakhay*.[7] Ordanel, now 24 years old, has been interested in music since he was young. He played guitar while he was in primary school. Later, his teacher introduced him to the *Jakhay*, a Thai instrument with strings similar to the guitar; he has since extended his interest to play the instrument. As for the chromatic *Jakhay*, he may not be the first one who created it, but his playing with fingerstyle techniques is different from the previous ones. His inspiration to create new techniques for chromatic *Jakhay* began when Ms. Phimphilai Kanya, a player of the Flamingo *Jakhay*, came to teach at his school in Samui. She taught him the Flamingo *Jakhay* techniques which he was very impressed with because the new version of

[7] Ordanel names himself on Tiktok and other media platforms only by his given names James Louis Gordovez, so, he is hard to find. Nevertheless, his video clips are openly accessible.

Jakhay can play various styles of songs and at the time, he played guitar which has similar strings and chords. The chromatic *Jakhay* has more frets and sound scales than the original one, allowing it to play and create various styles of songs. Besides, another inspiration for his new techniques is his love of innovation, and as he is already familiar with playing fingerstyle guitar, he can adjust easily to playing chromatic *Jakhay*.

Ordanel has created a fingerstyle technique to promote the chromatic *Jakhay*, hoping it will be a regular instrument for western style music players like guitar or ukulele. He thinks that musicians who are familiar with chords in modern instruments will be interested in and like the chromatic *Jakhay*. He also likes everyone to know that *Jakhay* can be played in the same way as a guitar. The chromatic *Jakhay* is played with fingers instead of a plectrum because it plays modern music where a plectrum cannot play chords or dynamics. Playing chromatic *Jakhay* with fingers can give song moods similar to a guitar.

Ordanel used to present some video clips on YouTube showing his new different techniques of playing the chromatic *Jakhay* which received good responses, though there are some negative reviews but no criticism in person. He thinks that being criticized is common, especially for those who do not understand what we try to do. He does not think that there is any negative cultural implication since the chromatic *Jakhay* is separated and different from the traditional one. If one wants to play Thai classical music, the Thai traditional *Jakhay* should be used. If one wants to play modern music, the chromatic *Jakhay* should be used. However, lately, Ordanel [8] has experimented with acculturation, reinventing a song in Filipino accents playing with Thai traditional *Jakhay* since he found that the scales of Filipino musical notes can get along well with Thai traditional *Jakhay*. His reinvention can be seen as one of his musical identities.

Ordanel intends to create new techniques for chromatic *Jakhay* so that it can play western style music like guitar and ukulele. Nowadays, in the social network, there are two groups of chromatic *Jakhay* players. The first group includes the interviewee, who plays chromatic *Jakhay* fingerstyle. Another group is those who play chromatic *Jakhay* with a plectrum and play Thai classical music, furnished with more frets and sound scales. The chromatic *Jakhay* can be used to play Thai classical songs, but for the best result and to maintain the songs' identity, the traditional *Jakhay* is recommended. However, the chromatic *Jakhay* may give different expressions from the traditional one.

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[8] Ordanel, James Louis Gordovez and Pornprapit Ros Phoasavadi. 2022. Interview in Bangkok.

The more frets and the more press weight on the chords result in higher, softer sounds with no Nae's sound.

As for his fingerstyle techniques, Ordanel said that they can be applied to various styles of music, such as instrumental, pops, and R&B, since the chromatic genre is wide open for music. The buzzing/vibrato sound of traditional *Jakhay* remains produced by strumming the strings with fingers.

Playing *Jakhay* with the fingerstyle is the identity of Ordanel, who loves western style music and likes to try new experiences no one has ever done before. Ordanel can lead his life in the present world through his music. Before entering Chulalongkorn University, he used to present video clips of his chromatic *Jakhay* playing on a YouTube channel. The clips got good responses, and he had a lot of followers, some of whom recognized him and came to greet him when they met. However, after being a student at the Faculty of Fine and Applied Arts, Chulalongkorn University, he kept a low profile as his innovation may be too modern for some to accept, so he stopped his YouTube presentation from then on.

Concerning the opinions of other musicians, Ordanel used to discuss with them his chromatic *Jakhay* and his fingerstyle playing. Most of them approved of his techniques, though some might be astonished since they did not expect *Jakhay* to play western style songs. However, while some requested more songs, some criticized his way of music. As for Thai classical musicians, Ordanel has not talked to them in person, but those whom he met were not against his music. Some even asked for his techniques.

Playing the chromatic *Jakhay* fingerstyle is more difficult than the traditional one. Ordanel is skillful in playing both guitar and traditional *Jakhay*; accordingly, he can play the chromatic *Jakhay* quite easily. However, those who play only guitar or only traditional *Jakhay* may find the chromatic *Jakhay* difficult. Those who play guitar need to change from playing with their palms up to their palms down and have to practice new ways of using their fingers and strumming the strings controllably and softly. Those who play only the traditional *Jakhay* have to practice strumming the strings which may not be familiar to them.

The pop songs played with chromatic *Jakhay* give different sounds which people may not be familiar with and are not widely popular. In the future, when people get to know the chromatic *Jakhay* and learn to play it, they will find that, with its chromatic scales, it is equivalent to several western instruments such as guitar, violin, and ukulele, though the chromatic *Jakhay* features its unique sounds, unlike any other instruments.

In summary, I have tried to understand as a person finding one's own identity concerning what one is working with. If I can understand the instrument I am working with, I will be able to work back to its origin, past, and present.

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An Iconographic Study on the Historical Origin of the *Paoqin* in Southeast Asia

Wei Qing Bing [韦庆炳][1]

Abstract

The *Paoqin* has been widely spread in India since the first century AD, and also spread to Southeast Asian countries such as Cambodia, Thailand, Laos, Vietnam, Myanmar and Indonesia around the 6th century AD. This study takes images of the *Paoqin* in historical relics in India and Southeast Asia and the still existing artifacts used as *Paoqin* as the research object and investigates the historical context of the development of the *Paoqin* in Southeast Asia under current conditions.

Keywords

Paoqin, Southeast Asia, Iconography, Historical contexts, Contemporary issues

Introduction

The *Paoqin* referred to in this article is a stick-shaped Qi special musical instrument that has spread widely over Southeast Asia and beyond. There is a large number of *Paoqin* images in reliefs, murals and stone statues in India, Thailand, Myanmar, Cambodia, Indonesia, Vietnam and other current areas. Today, it is rare to see a *Paoqin* in use.

Lin Qiansan's 'East Asian Musical Instruments'[2] has this description of the *Paoqin*: "The stick-shaped qin (Stabzither) further developed by the musical

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[1] Wei Qingbing, Zhuang, Master of Ethnic Music Theory, Guangxi Arts University. He has long been engaged in the playing and teaching of Qin and Guqin, therefore, he is fluent in Vietnamese and Thai and in the comparative study of Chinese and Southeast Asian musical instruments, among them musical bow and zithers.

[2] Lin Qiansan. 1962. *Research on East Asian Musical Instruments*. Beijing and Shanghai: People's Music Publishing Company.

Wei Qingbing [韦庆炳]. 2023. An Iconographic Study on the Historical Origin of the Paoqin in Southeast Asia .*Musical Bows and Zithers along the Great Silk Road*. Edited by Xiao Mei and Gisa Jähnichen. Berlin: Logos, 93-104.

bow (‘Musikbogen’). It is a semi-rigid and straight bow. It has a half-pao[3] for resonating, a string, and a sling to tune it. It is a very simple instrument and has no frets." In addition, and related to that, the "Modern Chinese Dictionary" tries to explain the *Paoqin*. The entry is: "The name of a musical instrument. It was introduced from Funan during the reign of Emperor Yang of the Sui Dynasty. This kind of qin was also found in China's neighboring country Pyu (in the Irrawaddy River Basin of Myanmar) during the Tang Dynasty." This is the definition of *Paoqin* that is rarely seen in Chinese literature. Lin Qiansan believes that the *Paoqin* was developed from the musical bow and spread in India, Cambodia, Laos, Thailand and other places. The record in the "Modern Chinese Dictionary" is mainly based on the description of the *Paoqin* in some writings or manuscripts that were developed during the time period of the Tang Dynasty. Among them, Funan Kingdom is an ancient kingdom in Southeast Asia, which existed from about the 1st to the 7th centuries AD. Its territory is roughly equivalent to the entire territory of Cambodia, southern Laos, southern Vietnam and southeastern Thailand. This also confirmed the spread of *Paoqin* at that time. Today, the *Paoqin* has different names in different regions.

The *Paoqin* referred to in this article is a special stick-shaped musical instrument that has spread widely. There is a large number of *Paoqin* images in reliefs, murals and stone statues in India, Thailand, Myanmar, Cambodia, Indonesia, Vietnam and other countries. Today, it is rare to see a *Paoqin* in use.

Lin Qiansan's "East Asian Musical Instruments" uses this description of the *Paoqin*: "It is a stick-shaped ‘Stabzither’ that further developed into the Musikbogen. It is a semi-rigid and/or straight bow. It carries a half-vessel as a resonatingbody, one string, and a string to tune. It is a very simple instrument and has no frets."[4] In addition, the "Modern Chinese Dictionary" explains "*Paoqin*" as follows: "The name of a musical instrument. It was introduced from Funan during the reign of Emperor Yang of the Sui Dynasty. This kind of qin was also found in China's neighboring country Pyu (in the Irrawaddy River Basin of Myanmar) during the time of the Tang Dynasty." This is the definition of *Paoqin* that is rarely seen in Chinese literature. Lin Qiansan believes that the *Paoqin* was developed from the musical bow and spread in India, Cambodia, Laos, Thailand and other places. The records in "Modern

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[3] A pao is a gourd or coconut shell to be used as space amplifier for the string of a single stringed musical bow or a zither with very few strings. The space created often does not strongly resonate.

[4] Lin Qiansan. 1962. *Research on East Asian Musical Instruments*. Beijing and Shanghai: People's Music Publishing Company; *Modern Chinese Dictionary*. 2016. 7th Chinese Edition. Hongkong: The Commercial Press.

Chinese Dictionary" are mainly based on some group writings collected and achieved during the time period of the Tang Dynasty. Among them, the Funan Kingdom is an ancient kingdom in Southeast Asia, which existed from about the 1st to the 7th centuries AD. Its territory is roughly equivalent to the entire territory of Cambodia, southern Laos, southern Vietnam and southeastern Thailand. This also confirmed the spread of *Paoqin* at that time. Today, the *Paoqin* has different names in different countries and regions:

Historical site	**Country**	**Time period**	**Morphological characteristics**
Ajanta Caves	India	From 2nd century BC	Shan Pao Wuzhen
Sculpture of Lord Shiva	India	2nd century AD	Shan Pao Wuzhen
Kaliāsa Temple	India	8th century	Shan Pao Wuzhen
San Bopole Ancient Temple	Cambodia	Late 6th century to early 9th century	Unable to identify
Champa sculpture	Vietnam	8th century	Shan Pao Wuzhen
Borobudur	Indonesia	9th century	Shan Pao Wuzhen
Ruins of Erabodi Kingdom	Thailand	6-11th century	Shan Pao Wuzhen
Nandamanye Temple	Myanmar	12th century	Shan Pao Wuzhen
Basung Temple	Cambodia	Late 12th century	Double Pao Wuzhen
Angkor Temple	Cambodia	16th century	Dan Paodan Zhen
Lixin Temple	Thailand	19th century	Shan Pao Duo Zhen

Figure 1: Historical sites in different countries at different times and some morphological characteristics of *Paoqins* around the region (scheme by the author).

Through the review of circulating depictions and field investigations, I found that the *Paoqin* originated in India and spread to Thailand, Laos along with religion. Laos, Myanmar, Cambodia, Vietnam, Indonesia and other Southeast Asian countries. Historic sites present in India and Southeast Asia There are a large number of images and carvings of *Paoqin* in it. The distribution of the *Paoqin* in Indian historical sites is mainly concentrated in various temples, especially the Shiva Temple is the most numerous. Inextricably linked with Hinduism.

Figures 2a and 2b: Depictions of the *Paoqin* in Cambodia are mainly distributed in the ancient temples of Sambor Prei and Angkor Wat.[5]

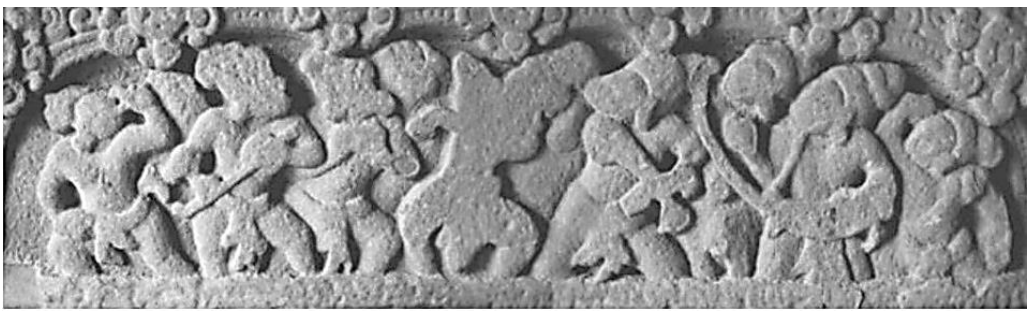

Figure 3: Relief Sculpture of an Orchestra in Sambor Prei Ancient Temple.

Figure 4: Carvings of *Paoqin* on the outer corridor of the Bayon Temple in Angkor Wat.

The *Paoqin* images found in Vietnam are mainly cultural relics of the Champa Kingdom. During the Champa period, Indian culture fully entered the Champa region and impacted the politics, society, religion, literature and art of the Champa country in an all-round way.

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[5] All pictures are printed with permission from openly accessible sources.

Figures 5a and 5b: Vietnamese Champa people playing Paoqin sculpture.

The Paoqin images found in Thailand are mainly relics of the Rapati Kingdom of Lanna.

Figures 6a and 6b: Sculpture of the Falling Luopati *Paoqin,* Lai Hin Luang Pagoda mural at Wat Lai Hin Luang, Lampang, Thailand.

The images of the *Paoqin* in Indonesia are concentrated in the ruins of Borobudur.

Figures 7a and 7b: *Paoqin* depictions in secular music and dance at the Borobudur temple.

There is only one figure of *Paoqin* found in Myanmar so far, which is the

Nandamanye Temple in Bagan. There are two types of *Paoqin* images: carvings and murals.

Figures 8a and 8b: The mural of Gandharva playing a qin, Carving of Gandharva playing a zither. Nandamanye Temple in Bagan, Myanmar.

In the process of its spread, the *Paoqin* has been influenced by different countries, different ethnic groups, and different regional cultures, resulting in various changes in the types of musical instruments. In this section, through the analysis of music iconography on the images of *Paoqin* presented in historical relics, we can explore the shape and performance of *Paoqin* in different periods, so as to clarify the flow and changes of *Paoqin*, and speculate on the transmission route of *Paoqin*.

FLOW: A ONE-STRING *PAOQIN* ORIGINATED IN INDIA

Regarding the origin of *Paoqin*, it was introduced from India, which is a relatively unified consensus. The way of its spread, the author thinks that there are two main aspects. One is the direct introduction of India, that is, the direct exchange between India and Southeast Asian countries, so that the *Paoqin* was directly introduced to Southeast Asian countries. The second way is the mutual exchange between Southeast Asian countries. The author of this article discusses the current country as a unit, but the regional administrative division of Southeast Asian countries in history is not exactly the same as the current one, which leads to their cultural harmony and mutual influence. Therefore, it is possible for Paqin to spread among Southeast Asian countries.

At present, most of the *Paoqin* carvings found in India are depicted as being

played by Lord Shiva. Even if not, the pictures have a great relationship with Lord Shiva. Shiva is one of the three main Gods of Hinduism, the God of destruction. In addition, Lord Shiva is the God in charge of music. The image of Lord Shiva playing the zither is mostly symbolic. As long as it appears, it is in the middle, and it is a representation of music. It is conceivable that the *Paoqin* had a high status in ancient India.

CHANGES OF THE *PAOQIN* IN SOUTHEAST ASIA

After Hinduism spread to Southeast Asia, it had an all-round influence on the politics, economy, culture, art and other aspects of Southeast Asia. From BC to the 5th century AD, India's distinctive Hindu and Buddhist art began to influence Southeast Asia. Different periods and different styles of Indian religious art forms can find corresponding expressions in Southeast Asia. At the same time, these religious arts are combined with the native arts of Southeast Asia to produce localized artistic features. These localized characteristics are directly manifested on the *Paoqin*, which is also particularly obvious. The author discusses the "change" of *Paoqin* from the aspects of its shape, performance occasions, and band combinations.

The shape of the pagoda, the Indian pagoda is a one-string shape, but in the fourth stage of the author's summary of the pagoda's development, it has evolved into a multi-string shape. In addition, the carrier of the image of the Thai qin has also undergone great changes, from stone carvings to gold-leaf murals. The advantage of gold-leaf murals is that it can describe the details of the qin performance in detail, including the qin, strings, and qin. The heads are clearly identifiable.

For the performance occasions of the pagoda, the image of the Indian pagoda does not pay much attention to the performance of the environment, and most of them are played by individuals. It shows the solemnity of divinity. Even if there are singing and dancing occasions, the focus is on the holiness of Lord Shiva. This is closely related to the religious overtones of the *Paoqin*, whose function as a musical instrument is far less than that of a musical instrument or a symbol.

The *Paoqin* in Southeast Asia is more secular. In many temples in Cambodia and Borobudur sculptures in Indonesia, we can see many band combinations in different occasions, different scales, and different arrangements. On the outer corridor of the Bayon Temple in Cambodia, the smallest paciol band can be seen configured as a paciol, a harp, and a dancer. At the same time, there is a song and dance band with as many as 14 people. The instruments include two paciolo, a harp, a scraper, a singer and many dancers. There are also larger-scale imperial banquet scenes. It can be seen that in ancient Southeast

Asia, the function of *Paoqin* as a musical instrument was greatly reflected, and it continued to develop from divinity to secularity.

SPECULATION ON THE RHEOLOGICAL DEVELOPMENT AND TRANSMISSION PATH OF *PAOQIN*

The spread of Paqin from India to Southeast Asia is a process of cultural transmission. Cultural diffusion is also cultural diffusion, which refers to the process of human culture radiating from the source of culture or spreading from one social group to another. There are two ways of direct transmission and indirect transmission. Here we discuss the process of *Paoqin*'s radiative dissemination from India, its cultural source, to Southeast Asian countries. From the overall perspective of *Paoqin*'s dissemination, the dissemination from India to Southeast Asian countries is direct transmission, while the dissemination among Southeast Asian countries is indirect transmission.

With the help of the "three stages" theory of cultural communication, the author tries to deduce a logical route of *Paoqin* transmission by analyzing the history of the current *Paoqin* image and the shape and structure characteristics of *Paoqin*.

The first stage is contact and manifestation. One or several foreign cultural elements appear in a society and attract people's attention. When Hinduism (Brahmanism) was introduced to Southeast Asia, it was the time when Southeast Asian countries began to take shape. Southeast Asian countries have fully accepted India's political system, religious culture, literature and art. *Paoqin* was naturally brought to Southeast Asia.

The second stage, selection. At this stage, social groups make choices about the cultural elements that emerge. The *Paoqin* introduced at this time was consistent with its cultural origin in India and the *Paoqin*, and they were all in the shape of a single Pao and no Zhen. Moreover, the time span of this stage is relatively long, from the end of the 6th century to the 12th century, there are paucins in the distribution of historical sites; in addition, the geographical span is relatively wide, involving Cambodia, Vietnam, Indonesia, Thailand and Myanmar.

The third stage is adoption and integration. According to their own needs, social groups absorb the cultural elements they decide to adopt into their own national culture, forming a cultural system that is different from the previous two cultures. This stage lasted the longest, from the end of the 12th century to the 19th century in Thailand and Cambodia and temples, some paciol carvings

were developed, which evolved according to their own needs and the needs of the nation. In addition, in some countries, the *Paoqin* has disappeared, such as Laos and Myanmar. It is a process of adopting convergence. This process will continue forever. To sum up, the author makes a diachronic comparison of the *Paoqin* carving images in the above historical sites.

On the whole, the author believes that the development of *Paoqin* in Southeast Asia has gone through four stages, namely: Single Pao wuzhen → double pao wuzhen → single pao single zhen → single pao multiple zhens. Before defining these four stages, it is necessary to set a premise for the Indian *Paoqin*, that is, the Indian *Paoqin* is in a shapeless system. We have seen that all the Indian harp carvings do not show the harp, even the statue of Lord Shiva on the corridor of the Kailāśa Temple. In other words, it is not because the sculptor chose to ignore it because it is difficult to represent the Qin Zhen. In addition, the Indian Tuila, which is still circulating today, is in the shape of a stump. Therefore, the author thinks that the ancient Indian *Paoqin* was in the shape of a Zhen. In addition, the details of the *Paoqin* in Sambo Polei Ancient Temple in Cambodia are difficult to identify, but the shape of its band is very similar to that of Indian bands, so it can be classified as "Single pao without zhen". The author tries to speculate on the streaming path of *Paoqin* based on the analysis of the image characteristics of *Paoqin* in these stages and the players.

In the first stage, there is a single pao without zhen. The representative relics of this form include: the reliefs of the lintel of the ancient temple of Sanbo Polei in Cambodia; the carvings of Champa in Vietnam; the reliefs of Borobudur in Indonesia, the clay sculptures of the Ruins of Rapati in Thailand, and the murals and reliefs of the Nandamanye Temple in Bagan, Myanmar. The shape of the qin in these relics is very close to the Indian qin sculptures of the same period or earlier. In addition, the reliefs on the lintel of the ancient temple of Sambobo Lei in Cambodia are almost the same as the Indian band shape, and the image of the Vietnamese Champa carvings is also similar to that of India. They are relatively similar, so it can be speculated that the two places received the introduction of the Indian paciol earlier. In addition, the images of paciol players in other relics are very different from those in India, and show diverse characteristics. For example, the carvings of Borobudur in Indonesia are more of the inheritance of *Paoqin* from Buddhism, Therefore, it breaks away from the image of Shiva as the main performer, and focuses on civilian musicians and Buddhist Jinnara players. The image of the performer in the clay sculpture of the Dharapati Kingdom site in Thailand incorporates the facial features of the local Mon people. The Nandamanye Temple in Bagan, Myanmar is a Buddhist temple, but its murals and reliefs combine the content of Buddhism and Hinduism, and the performers have become Gandharva, the

music god in Indian mythology. Counting from the Ajanta Caves with a clear construction time, the first stage of the development of the Indian Paqin has lasted for at least two thousand years; It lasted about six hundred years. The author believes that in the first stage, *Paoqin* was mainly spread directly from India to Southeast Asia, and its route is shown in the figure:

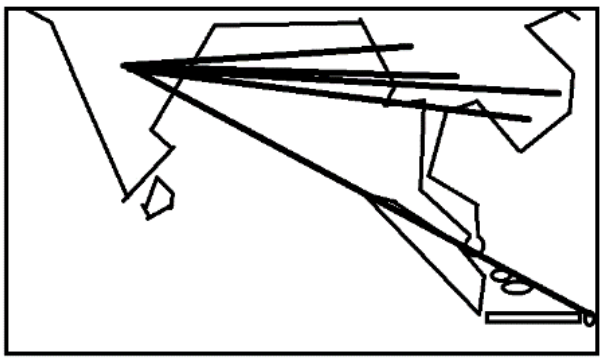

Figure 9: The road map of the Indian *Paoqin* to spread directly to Southeast Asia.

In the second stage is the double pao wuzhen. This shape only appeared in the Bayon Temple in Angkor Wat, Cambodia, which was built at the end of the 12th century. Inside that temple, many reliefs show this shape. The double pao wuzhen also appeared in large numbers in India, and later evolved into a Rudravina. The Rudravina is still very popular in India.[6] The double-pao-shaped violin making in Cambodia has not been handed down. The double-pao-shaped violins occasionally seen in the band performance are restored from the reliefs of the Bayon Temple. In performance practice, the double gourd shape is not often played.

The resonance pad near the head of the piano is not in contact with the strings, and the distance from the string vibration to the resonance pad is long, and the transmission efficiency is low. Compared with the single pagoda, the overall resonance of the double pagoda does not effectively increase, which seems to be normal in zithers.

The third stage is then a single pao and single zhen. Taking a carving of Angkor Wat, Cambodia, built in the 16th century, double gourd uses as an example. The system was changed back to single pao, and a qin zhen was added. Since then, the shape of the *Paoqin* has remained largely unchanged in Cambodia. This is also the earliest appearance of qin zhen in a *Paoqin* image.

[6] Please consult the first paper in section three of this book.

The fourth stage means the single pao and multiple zhen. Represented by the Thai *Paoqin*, it is characterized by a single *Paoqin* with multiple strings even today.

Only Thailand has a multi-string shape. The author has collected an old copper headstock with a history of about 300 years. There are seven string grooves in their position, which indicates that it was once used on a lyre. At present, there are two kinds of single-pao and multi-chamber violins in Thailand. There, they can have up to seven strings.

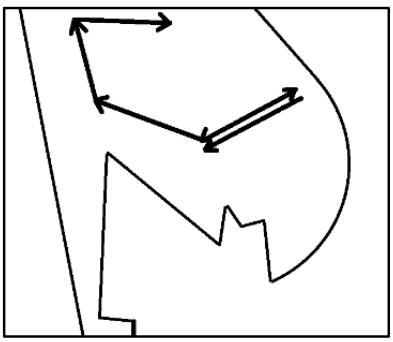

Figure 10: The *Paoqin* transmission path map among some Southeast Asian countries. (Scheme by the author).

As shown in the figure above, the author's speculation is mainly based on the information analysis of several aspects. Cambodia is crossed according to the current state administration. There is a two-way transmission between Zhai and Vietnam. This area used to be a unified Funan Kingdom, and the Funan music captured by Emperor Sui Yang's army was played during that time.

The *goong* came from this area, and at this time, the *Paoqin* began to be introduced to China. After the Funan Kingdom, the Angkor Dynasty and the Champa Kingdom rose. At the beginning of the 11th century, the Angkor Dynasty entered its heyday and once annexed Champa. In 1177, the Champa army captured Angkor again. In 1181, Jayavarman VII led an army to capture Champa. Scenes of the battle between the two countries are also depicted on the reliefs of the Bayon Temple.

These wars also contributed to the fusion of the cultures of the two regions. Similarly, the *Paoqin* was spread from Cambodia to Thailand because of the war. In the 14th century, the Ayutthaya dynasty established by the Thais in Thailand gradually prospered. They attacked Angkor in 1351 and Angkor Thom a year later. Thousands of residents were captured in Thailand, including a large number of Angkor courts. Among them musicians, and singers. Ayutthaya, where the Ayutthaya dynasty is located, was very popular in the old days in Ayutthaya, Thailand, but it is rare now. The popular center of *Paoqins* in Thailand shifted northward. Through the trading of old piano

heads in the markets of Chiang Mai, Thailand and Luang Prabang, Laos, it can be concluded that there was a mutual circulation of *Paoqins* at the two places in the past.

Conclusion

To sum up, the author sorts out the images of *Paoqin* found in historical sites in India and Southeast Asian countries, analyzes in detail the age, distribution area, and shape characteristics of *Paoqin* images, and then proposes four stages of the spread of *Paoqin* in Southeast Asia: single *Paoqin* no zhen (6 - to present), double Pao without zhen (late 12th century), single Pao and single zhen (16th century to present), single Pao and multiple zhens (19th century to present). According to the documents and pictures in the author's possession, there are several routes for the Indian *Paoqin* to spread directly to Southeast Asia: India-Myanmar; India-Thailand; India-Cambodia; India-Vietnam; India-Indonesia. The streaming between Southeast Asian countries is mainly: Cambodia-Vietnam (two-way); Cambodia-Thailand; Thailand-Laos. The "flow" of multiple transmission paths has led to the "changes" of the *Paoqin* in Southeast Asia in various forms. This article elaborates the evolution of the *Paoqin* in Southeast Asia from the aspects of shape characteristics, performance methods, ensemble forms and performance occasions.

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Remark

All depictions and schemes are re-produced with permission or self-produced.

Stick Zithers and Their Sound in the Regional Context of Mainland Southeast Asia

Gisa Jähnichen[1]

Abstract

Having made some insightful recordings among Oi People living in the South of Laos, the focus of this paper is to show the wider regional context of stick zithers as they bridge a number of features found in other musical instrument types used throughout mainland Southeast Asia and beyond.

It is of utmost importance to document practices of recent ensemble playing and vocal accompaniments that will vanish due to new means of creative sound manipulations. Some examples will be analyzed in detail bringing the musical instrument, the players, and their social contexts into their own perspective. The analyzed observations will relate to neighboring regions, where specific musical bows and zithers were used over a longer period of time. This approach may benefit future undertakings in documentation of the past and in visioning times to come for previously isolated communities.

Keywords

Stick zithers, Sound studies, Mainland Southeast Asia, Oi people, Attapeu

Study on the *Champitau*

Mainland Southeast Asia is not strictly divisible according to countries to which people are administratively connected. So it is with the Oi, the Ta-oi, the Brau, the Katu, and some other people living in the valleys behind the Boloven plateau in today's Lao People's Democratic Republic.

Let us start with a short video recording that is accessible at the Lao National Library of two local musicians in a village called Lanyaotai belonging to today's province Attapeu in Southern Laos. The two local musicians are near

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Jähnichen, Gisa. 2023. Stick Zithers and Their Sound in the Regional Context of Mainland Southeast Asia. *Musical Bows and Zithers along the Great Silk Road.* Edited by Xiao Mei and Gisa Jähnichen. Berlin: Logos, 105-116.

to professional as they already attended many recordings in the village and in larger cities of Laos and Vietnam.

The two-string zither *Champitau* (*kani*) with *leun* (*ng'kuay*k) were played by Mister Pheng, at that time 70 years old, and Mister Khamseng, who was only 44 years old at the time of recording.

The first attention is dedicated to the *Champitau*, as it was called by some Lao colleagues, or *kani*, which sounds similar to another string instrument of that area (the *k'ni*, in Lao '*so pak*', that was played by Katu people in Nonnongva, Sekong). The zither described here is the *kani*, the *Champitau*.

It had an open calabash attached, which had to be pressed against the chest, to use the entire body for sounding control. In the past, meaning around 20–40 years earlier, people did not wear Tee-shirts. The video cut[2] shows clearly that the tee-shirts were used to cover the naked parts of the upper body. However, these naked parts are thought of being very important in order to make the *Champitau* well-sounding. In the recording, the sound was small and not very striking. Pheng played the *Champitau* with a tee-shirt, so he was confused that his colleague supporting at least the rhythmic structure on his bamboo-mouth-drum was not in tune as he lost control of the tuning and started over again. Khamseng insisted to put more tension on the strings of the *Champitau* in order to fit to the *ng'kuayk's* basic tuning. Pheng used the small tuning pegs that are placed at the end of one stick to lift the frequency of the higher-tuned string getting out an approximate fifth from the previous tuning in an approximate fourth. Similar tunings can be observed in spike fiddles along the Vietnamese coast. This shows that Pheng's audible skills were still good enough for that, although he was one of the oldest inhabitants of the village.

The *Champitau* was played with both hands. The right hand, especially the ring and the small finger, struck the strings, of which one was used as a bordun string and the other as the melodic string. The other parts of the hand kept the stick, especially the thumb and the pointer of the right hand, and pushed the attached calabash against the chest, while the left hand shortened the strings according to the given wax marks, of which there were five options. The wax marks are used like frets but not restrictive regarding pitch relevance. Pitches still could vary. Pheng decided for a very simple melodic pattern, he produced together with Khamseng.

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[2] Jähnichen, Gisa. 2013. *Studies on Music and Dance Cultures in Laos*. Norderstedt/Vientiane: BoD and Sengsouvanh. The video is available through the respective archives. Here, it is described.

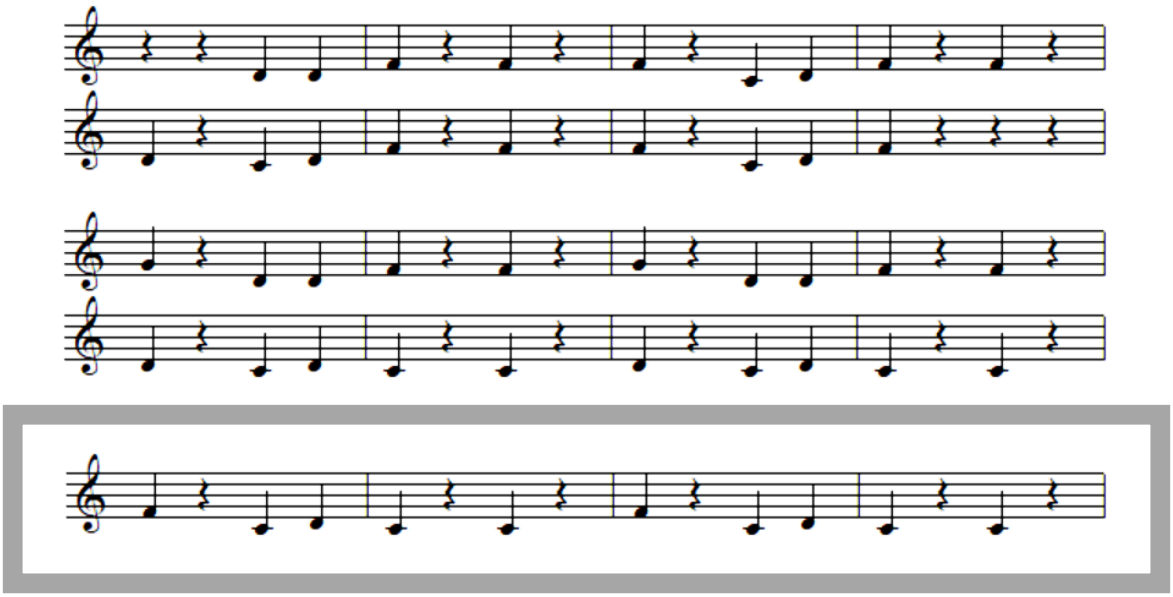

Figure 1a: *Champitau* main melody, played by the musician Pheng, 70, on 30th March, 2001 in Lanyaotai, Attapeu, Lao PDR. Recorded by the author and ATML as Code number 00816. It is the beginning of the piece (black), followed by the beginning of a variation line (transcription by the author).

The entire piece, which could be extended in the described way, was supported rhythmically through the mouth-drum player who just plucked his instrument on each possible beat giving the *Champitau*-player a vivid framework to place different pitches. The last line (framed in gray) of the transcription scheme was again a variation of the beginning. The intonation of the piece declined from different steps. If written in numbers, while each number represents a possible pitch of the *Champitau*, then we get the following outcome using the simplified method of writing in 65123 positions:

--661-1-**1-56**-1-1
6-561-1-**1-56**1---
2-661-1-**2-66**1-1-
6-565-5-**6-56**5-5-

1-565-5-**1-56**5-5-

Figure 1b: Transcribed scheme of the main melody in ciphers with the main phrase emphasized by the author.

The simplified writing method is a derivation of the cipher notation used in describing gamelan pieces and other melodic structures that give an instant hint of connectedness to the users.

From this, it becomes visible that the deciding melodic section for identification of the line is in the third bar of each line, so one gets out 1-56 as one shape and 2-66 or 6-56 as the other shape. This might be signaling one specific type of piece construction. It helps to put lines in order and to derive new variants. Therefore, the last line noted down here sounds like a variation of the first line, although it is also declining in the second bar.

THE FABRIC AND THE TONE

However, it is necessary to point out that the clothes play a major role in making this instrument sounding well. So, the habit of covering the entire body with clothes harms seemingly the sound of this instrument. That is a fact that was often believed through repeated mentioning. I also believed it for some time until I saw Pheng playing the *Champitau*. He pushes the 'resonator'[3] on the cross of the scarf he looped around his body, not against the tee-shirt. The quality of the scarf is an important factor of making the 'resonator' working. The 'resonator' of Pheng's *Champitau* was broken. He stitched the calabash together with a thick thread (Figure 2). The scarf was a contemporarily woven scarf. If the scarf were made of pure cotton or linen, it would soak up the moisture of the body. The scarf or the body was both a bit wet and resonate well. This became a different issue, if there was an additional isolation between the layers of skin and scarf. Such an isolation could have been represented in the noncotton part of the tee-shirt and the noncotton part of the scarf. Weaving was at the time of recording rapidly declining due to technological improvements in the garment industry and due to raising prices for materials won from cotton or linen. Eventually in result, the sound of the *Champitau* became smaller and smaller and could not compete with the other bigger sounds. Also contributing to the smaller sound is the fact that professionally hired musicians do not sweat as much as farmers did earlier. The scarves are as dry as the skins. Only later observations and reanalyzing the outcomes have shown that the body control and not the resonance may have been distorted through different clothes.

[3] Actually, a stick zither has no resonator as any zither can exist without resonator. The calabash is not resonating; but it is slightly modifying the timbre.

In the case of Pheng, the synthetic materials in the tee-shirt outweighed the synthetic parts in the scarf. He has on purpose chosen an older scarf saying that this sounds and looks better (Figure 2).

Figure 2: Pheng's *Champitau* 'resonator' is pressed against the scarf and the tee-shirt (screenshot from video picture in the recording ATML00816[4]).

The Oi in the village Lanyaotai did not live apart from the world. So do stick zithers not sound apart from the world (Jaehnichen, 2021).[5] Here are some general observations of stick zithers.

Stick Zithers in the World

Among the simple chordophones or zithers are the stick zithers, of which the one- to three-stringed musical bows were the most widespread in large parts

[4] *ATML collection*. 1999-2022. Sound and Audiovisual Collections catalogued by the National Library of Laos in Vientiane.

[5] Jähnichen, Gisa. 2021. Minorities' Music and Dance on the Vietnamese Stage. *Music and Marginalisation – Beyond the Minority-Majority Paradigm*. Edited by Ursula Hemetek, Inna Naroditskaya, Terada Yoshitaka. *Senri* Ethnological Studies 105. Osaka: National Museum of Ethnology, 125-144.

of Africa[6], Southeast Asia, and Oceania. A few examples also existed in America. There are musical bows of which the strings are made from the material of the bow, for example, the raised fiber from the midrib of a sago leaf, a one-string musical bow that was documented for Eastern New Guinea and could have been up to 2 m in length[7]. This is a nice example of an idiochord musical bow.

Figure 3: Musician plays an *okambulumbumbwa* of the Namibian Ovambo (photography by courtesy of Sabine Zinke).

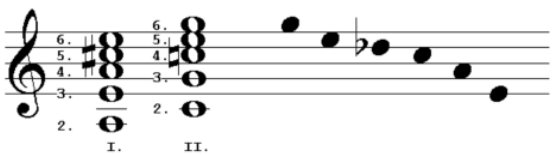

Figure 4: If the third is tapped, the possible pitch row is similar to this. Seen from today's perspective, this does not prove any cultural belongings. Only that some epic songs can make use of descending melodic patterns. The authors of this measurement presented it as a lecture at an ICTM Symposium in Spain in 1990[8].

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6 Gansemans, Jos and Barbara Schmidt-Wrenger. 1986. Central Africa. *Music History in Pictures* (I, 9). Edited by Werner Bachmann. Leipzig: Deutscher Verlag für Musik; Wegner, Ulrich. 1984. *Afrikanische Saiteninstrumente*. [African String Instruments]. Berlin: Veröffentlichungen des Museums für Völkerkunde, Neue Folge 41.

7 Fischer, Hans. 1986. S*ound-Producing Instruments in Oceania - Construction and Playing Technique - Distribution and Function*. Edited by Don Niles. Boroko: Institute of Papua New Guinea Studies, 70, 190-193.

8 Zinke, Sabine and Reiner Kluge. 1990. *On the Relationship between Vocal and Instrumental Parts in a Song from Namibia*. Lecture at the ICTM Symposium of the Study Group on Analysis and Classification, September 1990. Santiago di Compostella. Unpublished manuscript.

The playing techniques are still widespread all over the world and do not indicate any relationship among each other.

Another possibility is to attach a calabash or alternatively a tin can (Figure 3) to the string or bow, such as this *okambulumbumbwa* of the Namibian Ovambo. It is pretty obvious that the tin can was never ever pressed against any chest and that control of pitch and rhythm can only be exercised by listening carefully. Like some other musical bows on the African continent, the *okambulumbumbwa* has a tuning loop that regulates the fundamental pitches (Figure 4).[9] To accompany epic songs, the player can pick up intervals with his left hand in the playing position shown and at the same time determine the tonal space of the song.

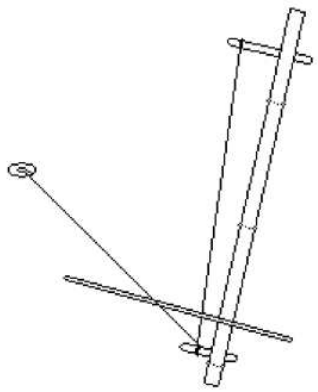

Figure 5: K'ny found among the Katu people. It is visible that there is only one string used that is divided through a small attached piece of wood and that one end bears a hole coin (drawing by the author, Jaehnichen, 2004[10]).

In Oceania, the musical bow *pingoru* of the Orokaiva people[11] carries the same name as the mouth drum[12] because it is played in a similar way.

Something interesting can be said about the k'ny of the Katu people living in mainland Southeast Asia (Figure 5). It is a mixture between a stick zither and

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[9] Zinke, Sabine. 1990. Die Gesänge der Ovambo. PhD Thesis Repository. Humboldt University Berlin.

[10] Jähnichen, Gisa. 2004. Musikinstrumente in außereuropäischen Kulturen [Musical Instruments in Non-European Cultures]. *Handbuch der Musikinstrumentenkunde*. Kassel: Gustav Bosse Verlag, 351-404.

[11] Fischer, Hans. 1986. *Sound-Producing Instruments in Oceania - Construction and Playing Technique - Distribution and Function*. Edited by Don Niles. Boroko: Institute of Papua New Guinea Studies, 190-195.

[12] 'Mouth drum' is one of the correct ways to denominate this instrument as it is not wrongly referring to Jews or simply jaws or modern plastic vessels with a lid. There are welcome exceptions, but the term is definitely a standard denomination.

a spike lute and a mouth drum. It is another type with tuning pegs from the central highlands of Indochina, which is used by many Mon-Khmer peoples. The heterochord string is extended here beyond the attachment to the peg and carries a small metal disc at the end. Mussel shells or hole coins were used for this some decades ago[13]. The disc is placed in the mouth and held in place with the teeth while the player could strike the tense parts of the string, which is divided into two, with the rough side of a narrow piece of bamboo. So, it is looked at as a replacement for any bowed spike fiddle. Yet it is a specific zither.

The main problem seems to be that the principle of sound production is so closely connected to general production technologies in the area. One may find a lot of bamboo involved making everything resonating inside of tubes. Or the combination of different principles is so apparent that it is not surprising to get simple chordophones and starting points of more complex results such as the kudyapi-types or zithers imitating lutes or former lutes imitating zithers. The direct observation of stitching the calabash only roughly also tells that it is not the calabash that resonates but possibly only the body, and the emerging sound is controlled by the body rather than the calabash (Figures 6 and 7). Pressing the calabash against one's chest only increases the control function but not the volume or resonance within the outer musical instrument. The transmission of physically felt sound is still not sufficiently investigated. This is worth to be considered when talking about decreasing volumes in string instruments.

Figure 6: The idealized *Champitau* of Pheng (drawing by the author, Jaehnichen, 2004[14]). The position of the wax frets shows that this stick zither was put into a

[13] Tô Ngọc Thanh. 1997. *Musical instrument of Việt Nam's Minorities*. Hanoi: Nhà Xuất Bản Thế Giới; London, Jonathan D. 2003. Vietnam's Mass Education and Health Systems: A Regime's Perspective. *American Asian Review*, 21 (2): 125–70; Jähnichen, Gisa. 2021. Minorities' Music and Dance on the Vietnamese Stage. *Music and Marginalisation – Beyond the Minority-Majority Paradigm*. Edited by Ursula Hemetek, Inna Naroditskaya, Terada Yoshitaka. *Senri Ethnological Studies 105*. Osaka: National Museum of Ethnology, 125-144.

[14] Jähnichen, Gisa. 2004. Musikinstrumente in außereuropäischen Kulturen [Musical Instruments in Non-European Cultures]. *Handbuch der Musikinstrumentenkunde*. Kassel: Gustav Bosse Verlag, 351-404.

diatonic context as well as the following 10-string zither that can be ordered via Internet from people living in a former Mon-Khmer area of Vietnam. It is very difficult to find local belongings and cultural sources of the instrument except for the use of the material bamboo, a calabash, and some wooden pegs.

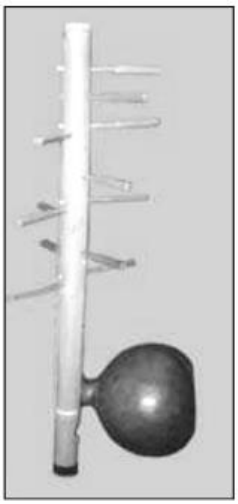

Figure 7: A *goong*[15]-like stick zither of the Xedang living in the central highlands of South Vietnam. Used on a festival by Xedang men in 1998 (photography by the author, the names of the performers are unknown, it was played in upright position, the player standing and wearing sport shirts made with a high percentage of non-cotton fibers).

In a performance during the Rainforest Festival held annually in Santubong, Sarawak, Malaysia, Prasart Hwai was performed as a video taken on a chamber stage by the Lai Muang group virtually as Contemporary Lanna Music, meaning Lanna (=Northern Thai) music with traditional instruments. The video clip shows that the pressing of the cut calabash against a naked chest – the attraction of the performance – does not change the loudness but the control possibility of tone length and timbre.

Figure 8: The piece Prasart Hwai performed on a chamber stage played by the group Lai Muang as Contemporary Lanna Music (19 June, 2020, virtually)[16]

[15] A *goong* should not be confused with a gong. It is a stick zither.

[16] Rainforest World Music Festival. 2022. Program online, accessible via https://rwmf.net/our-programme/, last visited 25 January, 2023.

(screenshot excerpt by courtesy of the Rainforest World Music Festival Press Unit). The video clip is in the public domain and distributed by FB users.

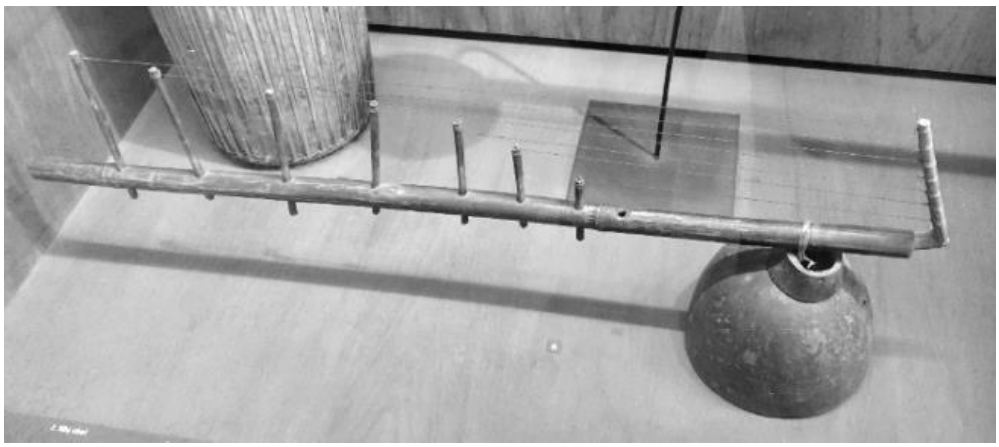

Figure 9: The *goong* of the Xedang, exhibited in Hanoi. The pegs indicate seven strings. At the end of the stick is a string-holding stick that connects loosely with the tube. The 'resonator' seems to be a bowl, but it is not a bowl made of pottery. The cutting indicates that advanced tools were used, therefore the guess of the 1980s (photography by courtesy of the Institute of Musicology in Hanoi, Vietnam).

Another earlier example of the same chordophonic idea was this *goong*, supposedly also collected among the Xedang in an unknown time, possibly around the 1980s.

CONCLUSION

Finally, the excellent idea of choosing only one criterium [17] of sound production as a categorization feature introduced by Sachs and von Hornbostel made it possible to have always a clear understanding of zithers and lutes. This phenomenon is significant to sound engineers who want to amplify the sound and see problems with zithers as the simple chordophones such as bows and zithers only produce the sound directly at the strings and these sounds are not transferred to the resonating body through any device. There is a wave transmitting unit like a specific bridge, a resonating rim, or a cross bar to which strings are attached, missing. Rims that are visible, string holders, or any other bridges do not transport the sound. Yet the sound can be felt through them in the body. Nevertheless, many people have their own understanding of sound producing units and keep their options open as some examples could show. The meaning of sound often includes extended shapes and the

[17] Jähnichen, Gisa. 2016. Multi-Perspective Categories in Collections of Instrumental Music. *Studia Instrumentorum Musicae Popularis (New Series) IV*. Edited by Gisa Jähnichen. Münster: MV-Wissenschaft, 117–136.

musicians' bodies' regular shapes, which have completely other features of categorizations. Increasingly, the connection between produced sound and the humanly defined sound environment has to become a new space of investigation. Also, the embedding of sound production in mass economic contexts since the later 20th century changed a lot of conditions. One of the conditions was that only men play these musical instruments. The outcomes of this rather short study show that the body of the females could not have been a reason of exclusion although this answer was often repeated by the players themselves when asked for the exclusion of females. It might be the social construction, religiously supported, surrounding this 'non-fact' that justifies male instrumentalists and their playing of ensemble music.

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REMARK

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SECTION 3

EAST-WEST CONNECTIONS AND THEIR HISTORY

FROM *SWARMANDAL* TO *TAISHOGOTO*: SOUTH ASIAN REPUTATION OF ZITHERS

Chinthaka P.Meddegoda[1]

ABSTRACT

Musical bows and subsequent zithers play an important role in a number of local traditions along the Silk Road. Some of those local traditions became known in a wider context. This is the case with some specific zithers used in different contexts of an upcoming entertainment music for an audience that had to be coeducated. In North India, and also in the entire territory of an independent India, in Pakistan, in Sri Lanka, and in some South Asian diaspora communities, the use of zithers to accompany songs or to blend with other musical instruments in ensembles can be observed.

This paper is to give a rough overview about historical connections and current ideas about zithers used in this context. Interestingly, local expressions are currently often traded as a quality attribute, although some musical instruments were appropriated very early in history. They were also transformed in a number of ways in order to fit local practices.

KEYWORDS

Zithers, South Asia, Swarmandal, Taishogoto, Musical functionality

INTRODUCTION

This study contributes as a historical and organological inquiry into an array of zithers from the South Asian region. Any research into this topic should be

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[1] Chinthaka Prageeth Meddegoda is senior lecturer on North Indian music (vocal) at the University of Visual and Performing Arts in Colombo since 2010 where he is teaching theory and practice of Hindustani vocal music, and supervises student research projects. He is interested in popular and traditional music of various Asian cultures as well as general issues of human society, philosophy and cultural studies. He obtained his PhD at Putra University, Malaysia, in 2015. During his studies, he was additionally trained as an audiovisual archivist and a conference assistant. He has published several academic papers in this field and has presented his research outcomes at international conferences. During his primary studies, he learned Hindustani music (classical, semi classical, and folk) under several gurus from Lucknow and Banaras. In 2018, he was appointed as the UVPA Research Co-ordinator followed by taking over to becoming the director of the UVPA Centre for Quality Assurance.

Meddegoda, Chinthaka P. 2023. From Swarmandal to Taishogoto: South Asian Reputation of Zithers. *Musical Bows and Zithers along the Great Silk Road*. Edited by Xiao Mei and Gisa Jähnichen. Berlin: Logos, 119-130.

further continued with interviews and literature studies. All the zithers found in the South Asian region will have to be listed, and *Swarmandal* as an important part of the performance and the *Taishogoto* variants that are also special zithers attributed to the Far East will have to be further investigated.

Often, I discuss with students to not use any Internet platforms spreading unsubstantiated knowledge or self-generated knowledge such as Wikipedia or various simple dictionaries. However, against myself, when I browsed by typing "use of *Swarmandal* in India", I got the results in google first. It is not the correct way of finding the nearest evidence or scientific information on the subject to be explored. However, googling helped find some sources that are to be considered and googling helped identify preliminary readings. Therefore, I recommend to test this, too.

There is a very instructive short video about psaltery online, about which is written that there is a small cosmos regarding this musical instrument. We should enjoy the charm of a psaltery fully. The video clip is marked with the date 20th August, 2013 and is named "Today's improvisation by Tessey Ueno http://www.tessey49.com"[2].

Another insightful reading and listening to audio files can be found under the website of UNESCO, where string instruments in general are named that played a role in establishing the Silk Road.[3]

SWARMANDAL

Swarmandal, a box zither, is a widely played musical instrument in North Indian classical music performances that take place worldwide, not only in India. It is also known as Surmandal or Surmandel. Its name is probably derived from the Sanskrit term for sounding circle = svar mandala and is written in Hindi language स्वरमण्डल. The origin of this instrument is rather complicated, and it is unrealistic to speculate or assume anything since there is still lacking evidence on 'by whom' and 'where' it was developed and what was the 'earlier shape and practice'. However, there are many similar zithers observable in different regions and areas around the world where the silk road might have been a crucial source allowing for migration and adaptations regarding musical bows and zithers.

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[2] https://www.youtube.com/watch?v=RAeT1JmJNTg Psaltery, last visited 31st January 2023.

[3] https://en.unesco.org/silkroad/content/cultural-selection-evolution-forms-lutes-and-other-stringed-instruments-along-silk-roads, last visited 31st January 2023

SOME LITERATURE ON THE HISTORY

Napier[4] finds that it bears a great physical similarity to the qanun used in Middle East, northern Africa, and parts of West Asia. According to Wade,[5] as also Oesch[6] says about him (1984: 234–235), the singers of Patiala Gharana claim that the *Swarmandal* was promoted by them. Wade regards this as a fact and provides iconographic evidence for the use of this instrument in the Moghul period by the Patiala musicians.

The very first reference[7] to *Swarmandal* in Indian literature is found in Abhinavabharathi written by Abhinava Gupta (often found as Abhinavagupta) between 950 and 1020 AD. He mentions Vanika or Mattakokila, which is interpreted as *Swarmandal* by later scholars.

According to some writings was the repeatedly edited Abu'l Fazl Allami, who lived in the 16th century. He mentions that "The *Swarmandal* is like the qanun. It has 21 strings, some of steel, some of brass, and some of gut". [8]

The author of Ragadarpana, Faqirulla, also living in the 16th century, says that the *Swarmandal* has the meaning of Sur Mandala: literally, a house of musical sounds, it is Qanun-like, with 25 strings, a few of copper and the rest of steel. Half of these are fitted from the bottom and the rest as in a Qanun.[9]

Although various zithers appear in iconographic sources, pictures, sculptures, and other written sources, Bandyopadhyay[10] lets the readers to further

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4 Napier, John. 2005. The Svarmaṇḍal and Its "Ancestors": From Organological to Aesthetic Continuity. *The Galpin Society Journal*, 58: 124–131, 225.

5 Wade, Bonnie C. 1990. The Meeting of Musical Cultures in the 16th-century Court of the Mughal Akbar. The *World of Music, 32*, (2, India): 3–26, specifically 19, 21.

6 Oesch, Hans. 1984. Review of 'Music and Tradition. Essays on Asian and other Musics Presented to Laurence Picken by D. R. Widdess, Rembrandt F. Wolpert'. *Die Musikforschung*, vol. 37, no. 3, 1984, 234–235.

7 Pushpendra, Kumar, ed. 2006. *Natyasastra of Bharatamuni: Text, Commentary of Abhinava Bharati by Abhinavagupta and English Translation*. 3 Vols. Delhi: New Bharatiya Book Corporation. Abhinava Gupta.

8 Abu'l Fazl Allami. 1894. *Ain-i-Akbari by 3rd v*. Calcutta: The Asiatic Society of Bengal, 269.

9 Faqirullah (nawab Saif Khan). 1996. *Tarjuma-i-manakutuhala and Risala-i-Ragadarpana, re-edited by the Indira Gandhi National Centre for the Arts*. New Delhi: Motilal Banarsidass,125-127.

10 Bandyopadhyay, Sumana. 2010. *Indianization of English: Analysis of Linguistic Features in Selected Post 1980 Indian English Fiction*. New Delhi: Concept Publishing; Ahobal. 1650. Sangeet Parijat. Npl/n/pub. Available in Bengali

investigate saying that Mattakokila[11] is absent in Sangeet Parijat of the 15th century but *Swarmandal* is mentioned.

There are many zithers that can be found in sculptures, paintings, literature, and iconographic sources in the history. They can be categorized as tube zithers and stick zithers, and most of them consist of one string as shown iconographically in the paper of Bhattacharya and Chowdhury[12].

Figure 1: For illustration, there is Vidushi Srimati Kishori Amankar performing raaga Lalit (with kind permission of the depicted).

One of the most outstanding stick and/or tube zithers[13] is also connected to the South Asian history: the older veena, also called ālāpiṇī vīṇā, which is very similar to the eka tantric veena and the kinnari veena according to writings in Śārṅgadeva's Sangita Ratnakara.[14]

language via https://archive.org/details/in.ernet.dli.2015.455456, last visited 2 February 2023.

[11] Seemed to be an ancient veena with 21 strings and 22 underlying sympathetic strings. Priyamvada, Amrita. 2007. *Encyclopaedia of Indian Music*. New Delhi: Anmol, 40, 69-70.

[12] Bhattacharya, Piyal and Shreetama Chowdhury. 2021. How the Vīṇā Travelled to other Asian Countries. *National Security*, 4 (1): 51-72.

[13] Dick, Alastair, Gordon Geekie, and Richard Widdess. 1984. "Vina, section 4. Medieval stick zithers". *The New Grove Dictionary of Musical Instruments*, 3. Edited by Stanley Sadie, 729–730.

[14] Wrazen, Louise. 1986. The Early History of the Vīṇā and Bīn in South and Southeast Asia. *Asian Music*, 18 (1): 37–42.

Some depictions can be observed in ethnomusicological works[15] and are in the public domain as the following example (Figure 2):

Figure 2: Indian stick zither played by a kinnara depicted at the Mamallapuram stone relief. The kinnari veena, which is probably the subject of depiction, became most used in the 19th century. This small part of a big picture can also be found at the Archives photographics du Musee Guimet Paris, Number 1453/58 (photography by the author).

OBSERVATIONS OF *SWARMANDAL* – PLAYING TECHNIQUES

The strings of the *Swarmandal* are usually tuned according to the ascending order of the intervals of any raga that is intended to be performed. Some vocalists of Hindustani music prefer to play *Swarmandal* while they are singing. If so, the artists pluck or execute short strokes and long strokes, meaning that the short ones include a few strings that are played faster, and the long strokes are played from the strings higher in pitch down to the lower strings and the other way round, in a decreasing speed compared to the short ones. The long strokes are played occasionally at where the singer feels required, while short ones are frequently played during singing simultaneously and in the melodic gaps. Some functions of the *Swarmandal*

[15] Kaufmann, Walter. 1981. *Altindien*. Musikgeschichte in Bildern *2* (8). Edited by Werner Bachmann. Leipzig: Deutscher Verlag für Musik, 181.

can partly be compared to sitar playing, and then it is called the tarab playing, which indicates a specific emotional potential that comes with the *Swarmandal* sound. The tarab then contains around 14 strings tuned into different intervals, and the strings run over a separate bridge. However, the sound production mechanism of the tarab that is played for entertainment and personal joy, at least in the Middle East and along Africa's East coast, is widely understood as similar to a zither.

SANTOOR

The santoor is also a frequently performed zither in the North Indian music sphere. It is important to separate the santoor playing from tarab or *Swarmandal* playing as it serves completely different purposes. One can well observe santoor playing through many recordings to be found online, of which anyone could be an excellent example.[16]

Its origin is seemingly from Persia, from where this instrument could spread to many other regions. The most obvious examples are the yanqin in China and the Hungarian Cimbalom. The santoor has been used in Sufi music of today's North India and Pakistan. Shiv Kumar Sharma is regarded[17] as the performer who adapted the santoor as a music instrument to play North Indian classical music in a style that is partly similar to *Swarmandal* playing. Nevertheless, santoor playing offers many additional features despite having some principal problems when being used in a performance with different ragas, but it is not by chance that Shiv Kumar Sharma found many followers.

TAISHOGOTO

The *Taishogoto* is so far known as the Nagoya 'harp'. Generally, the term harp appears regularly in translations about zithers, which does not make the use of the term harp instead of the zither more correct. The *Taishogoto* in their creation context was obviously called "Kiku Koto". The origin of this instrument is rather clear as the evidence-based information is available and not so old as that of the veena or the *Swarmandal*, yet the given explanations are also questionable. We can find more about the *Taishogoto* again through a simple search that can be helpful and at the same time distracting.[18]

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[16] As this one: Pandit Shiv Kumar Sharma and Zakir Hussain are playing the full raga Kirwani. The reocrding is possibly over 20 years old and only later restored. https://www.youtube.com/watch?v=EY52Mi9BWxw&list=RDEY52Mi9BWxw&start_radio=1&rv=EY52Mi9BWxw&t=4, last visited 14 November 2022.

[17] Puri, Ina. 2018. *Journey with a Hundred Strings: My Life in Music*. New Delhi: Penguin Random House India.

[18] This text file can introduce the Taishokoto as it is related to the description of an exhibition in Nagoya with the topic 'Nagoya Ohsu and Taishokoto' in the year

The number of strings can vary and depends on the manufacturer and the preference of the instrument player. Usually, there are five strings including one string used as a drone. The rest produces different intervals and can be set into a relationship to the drone string. All five strings are tuned to a pitch of the same name that can be in different octaves or ranges.

This instrument appears in the Taisho era (1912 to 1926). It was probably created by a man named Goro Morita, who lived in Nagoya in the year 1912 during the Taisho era and traveled on a scholarship to USA and Europe to study diverse musical instruments, where he may have also studied the German hummel[19] and the akkordolia created by Otto Teller in Klingenthal between 1908 and 1910. Otto Teller's musical instruments carried the sign DRGM[20], which meant to be a proof of a patented invention. However, the numbering of the buttons was not a simplified scale writing but carried out successively from 1 to 18 according to frets. Morito's addition was possibly the use of a simplified scale writing similar to the gongchepu [工尺谱], which is widely in use throughout East Asia, and the application of piano buttons in a keyboard order that imitate old typewriter letter-type holders. Insofar, it must have been a continuous global invention over a long distance during a short time period.

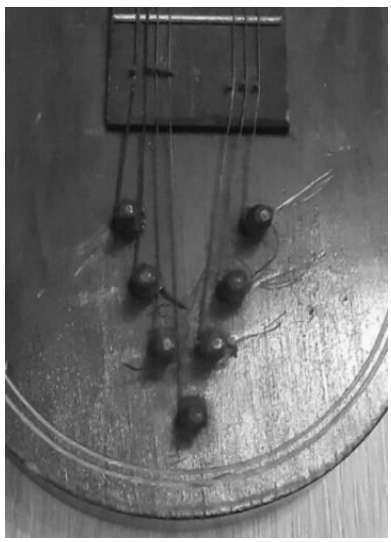

Figure 4 and 5: (left) Excerpt from a photograph of the brand paper inside an akkordolia, where the patented sign is put and there is the remark that Otto

2010: https://www.lyrist.co.jp/kinshuukai/ayumi/history_en.html, last visited 2nd February 2023.

[19] The hummel is a box zither often in the shape of a lute played in medieval times before the 18th century. It is related to the Norwegian langeleik and some other similar musical instruments. Grall, Jeremy. 2012. Review of The Story of the Hummel (German Scheitholt). *Notes*, 69 (1): 82-84. DOI: 10.1353/not.2012.0138.

[20] Deutsches Reichsgebrauchsmuster, that was in use from 1891-1945.

Teller from Klingenthal/Sachsen is the sole instrument producer. (right) Metal pegs to which the 7 strings are attached (photographs by the author).

The already mentioned exhibition at the Nagoya broadcasting center building organized in April 2010, which was also dedicated to the formerly *named Kiku-koto*, was describing the *Taishogoto* as the "new two stringed musical instrument that was put on sale in Nagoya on September 9, 1912". The years after 2010 were celebrating this musical instrument's 100th anniversary. However, some doubts are left whether the Japanese inventor was partly copying some earlier observations.

In the United States, the *Taishogoto* was also known as a typewriter zither. The akkordolia which was invented in the German speaking area and in the beginning only used to improve the elderly's memories[21] was mass produced and very similar to the *Taishogoto* which was made in Japan during the same time period but first sold as children toy. The German *Taishogoto* (akkordolia) comes in a family of soprano, alto, tenor, and bass voice. It remains not clear where the instrument was first distributed. The fact seems to be that some of them were sold in India, where the musical tool was modified and quickly adopted. The origin was not emphasized as it became fashion to take over not only from the West but also from the East. The name *Taishogoto* was a specific way to hide the long history of the development. Today, the *Taishogoto* is widely advertised and confusing names are circulating, such as the following online advertisement:

Figure 6: Advertisement picture of an online store selling the Japanese 'harp' (picture is in the public domain).

[21] Ulrich, Wilfried. 2014. *Mountain Dulcimer Relatives Worldwide: The Taishokoto in Japan*. Mel Bay's Dulcimer Sessions. Archived from the original on 24 October 2014. Accessible via https://web.archive.org/web/20141024190842/http://archive.dulcimersessions.com/jun09/ulrich.html, last visited 2nd February 2023.

"Very cool Suzuki Taisho Goto or Japanese Harp, this is an electric model, super fun to connect with chorus and delay pedals and make very nice music, check out the video (video is not this harp, just a similar model being demoed on YouTube) This one is in very good condition, has some dirt and dust, electronics are all working fine, comes with case (case is old and is deteriorating). Comes with manual and some picks…"[22]

From there, it would be a short step to name it *Taishogoto*-to-go. Interestingly, the US American typewriter zither is more similar to the Japanese continued invention than to the Klingenthal invention. Also, the decorations and buttons seem to vary and to showcase Japanese roots as if being an exotic musical instrument.

Figure 7: The typewriter buttons of the *Taishogoto* sold by TKviper, an American store. The numbers represent the piano layout starting with C=1. The higher octaves are marked with a dot above (picture is an excerpt of a still from the advertisement video and in the public domain).

In 1919, a bigger *Taishogoto* has been modified somewhere in Baluchistan. It is called benju and did not hide the localizing of strange musical instruments. The benju is two times bigger than the older *Taishogoto* that has been used in North India before.

The *Taishogoto* was definitely adapted in some music practices of Pakistan, India, and Sri Lanka. The banjo in India and Pakistan has a close resemblance to the 'benju' in Baluchistan.[23] The Indian version is called 'bulbul taranga'. In Pakistan and North India, the benju is a prominent instrument in Qawwali performances and also some other singing forms like Bhojpuri songs and some Uttar Pradesh music practices. In Sri Lanka, the *Taishogoto* is called 'Japan mandolin'. It is used in private musical settings called 'bajau' in Sri Lanka.

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[22] https://www.google.com/shopping/product/1?client=firefox-b-d&hl=en&q=typewriter+zither&prds=epd:11220361885625011073,eto:11220361885625011073_0,pid:11220361885625011073&sa=X&ved=0ahUKEwis5Juglff8AhXauKQKHV4qBFoQ9pwGCAU, last visited 2nd February 2023.

[23] During, Jean. 2015. The Baluchi Benju, a New Traditional Instrument. NEMO-Online, 3 (4): 5-12; Darvishi, Mohammad Rezā. 2001: « Binjo ». Dāyerat ol-maʿāref sāzhā-ye Irān, Jeld 1. [Encyclopedia of instruments in Iran, 1] (2). Tehran: Mahoor, 109 118.

Bajau practices may last till dawn and depend on the interest and energy of the participants who will be drunk. There are bajau groups who play music for a fee or for food and liquor. It seems to be a beggar's instrument.

Asith Atapattu[24] says that he remembers there was a beggar at the bus stand in Piliyandala, Sri Lanka, in 1988, who played the so-called Japan mandolin pretty melodiously. Sujith Priyankara[25] says that he witnessed beggars playing that Japan mandolin at Sella Kataragama situated in the southern province of Sri Lanka where people visit the Hindu temples during their pilgrimages. According to Sujith, there are a few of these Japan mandolin players around the temple area playing *Taishogoto* (Japan mandolin) and collecting rewards from the crowd.

This instrument is usually not taught in Sri Lanka. It has seemingly not a very high reputation and is considered a replacement instrument for learners.[26] The people who can play harmonium or any keyboard instrument may pick this instrument and improve their own skills through self-studies.

Concluding Remarks

Swarmandal and *Taishogoto* are zithers that have become popular in South Asia and were adapted in various local settings at various times. They existed alongside many other adaptations and further modified musical instruments of those diverse time periods. *Swarmandal* and *Taishogoto* came from completely different ideas, but their reputation is seen in the usefulness as an accompanying musical instrument rather than an independent tool. Such an accompanying musical instrument derives its merits and reputation from the vocalist using them or from the vocalist being represented through them. This joint feature makes them different from other musical bows and zithers found in South Asia. The shared functionality of *Swarmandal* and *Taishogoto* was originally attributed to therapeutic purposes.

The *Taishogoto* was finally also played in a widely enjoyed television show as an independent musical instrument and without any purpose associated with memory inducing in elderly people or as a toy for children. There also exist some further developed hybrid creations around the world, yet as a tool of expressing musical meanings, it surely benefitted from the existence of large and geographically connecting economic trade routes in all times.

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[24] Asith Atapattu and Chinthaka P.Meddegoda. 2022. Joint discussion on *Swarmandal* and *Taishogoto*. Colombo.

[25] Sujith Priyankara and Chinthaka P.Meddegoda. 2022. Joint discussion on *Swarmandal* and *Taishogoto*. Colombo.

[26] Musicians playing the Japan mandolin in Sri Lanka. www.youtube.com/watch?v=y_cvZSvYUUw, last visited 2nd February, 2023.

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Pandit Shiv Kumar Sharma and Zakir Hussain are playing the full raga Kirwani. https://www.youtube.com/watch?v=EY52Mi9BWxw&list=RDEY52Mi9BWxw&start_radio=1&rv=EY52Mi9BWxw&t=4, last visited 14 November 2022.

Priyambada Sarkar. *Deep Ecology and Hindu Ecological Theology: An Exploration, Ecological Theology and Environmental Ethics*, *4*. Edited by Louk. A.

Andrianos, Institute of Theology and Ecology. Heraklion: Orthodox Academy of Crete.

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Some Zithers as Documents of Prehistoric Times

Juan Sebastián Correa Cáceres[1]

Abstract

There is no doubt that every type of zither, Middle Eastern, Asian, or African, has a story to tell us. This story, apart from starting in the distant past, involves not only music-related activities but also activities that have nothing to do with music. This paper attempts to recount the story of the zither in prehistoric times by describing possible scenarios in which the instrument (or rather its precursors) was involved. Essentially, the zither is being unearthed not only through archaeological analyses but also through current thinking.

Keywords

Ancient Chinese zithers, Prehistoric Music, Neolithic, Musical Bow, Oracle bones

Introduction

Any study which attempts to reconstruct the history of a musical instrument often takes a diachronic approach. Scholars[2] have already provided a spatial-temporal account of the Chinese zither (Figure 1b). This is mainly based on archaeological finds from different areas. The use of this account as a 'model' has its pros and cons. On one hand, the account provides a framework from which one can elaborate further, while on the other hand, it restricts the

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[2] Major, John S. and Jenny F. So. 2000. Music in Late Bronze Age China, *Music in the Age of Confucius*. Edited by Jenny F. So. Washington: Freer Gallery of Art and Arthur M. Sackler Gallery Smithsonian Institution, 13-34; Zhao, Wu. 2002. The Ancient Chinese Zither – Early Qin from a Tool for Communication with Spirits to a Music Instrument. Studien zur Musikarchäologie, 3: 543-547; Lawergren, Bo. 2003. Western Influences on the Early Chinese Qin-Zither. *Bulletin of The Museum of Far Eastern Antiquities,* 75: 79- 109.

Correa Cáceres, Juan Sebastián. 2023. Some Zithers as Documents of Prehistoric Times. *Musical Bows and Zithers along the Great Silk Road*. Edited by Xiao Mei and Gisa Jähnichen. Berlin: Logos, 131-142.

investigation. I say this because China's historical period begins with the development of a pictographic and phonetic script in 1500 BC, while the earliest evidence of Chinese zithers only takes us back to the 5th century BC, specifically to the Warring States Period.

8000-7000 BC	HUNTER-GATHERERS
7000-5000 BC	EARLY NEOLITHIC PENGTOUSHAN
5000-3000 BC	MIDDLE NEOLITHIC YANGSHAO
3000-1700 BC	LONGSHAN CULTURE
1700-1500 BC	XIA DYNASTY
1500-1045 BC	SHANG DYNASTY

Figure 1a: Table of complex societies found in China. Printed with permission.

Figure 1b: Archaeological sites which yielded zithers of the type qin, se, zheng, and zhu, redrawn by the author from Lawergren with permission.[3]

[3] Lawergren, Bo. 2000. Strings. *Music in the Age of Confucius*. Edited by Jenny F. So. Washington: Freer Gallery of Art and Arthur M. Sackler Gallery Smithsonian Institution, 66.

On Prehistoric Chinese Music and the Absence of Chordophones

Music activity in China can be traced back to the Neolithic period (*c*.8000–2000 BC). It is known, for instance, that people belonging to the Peiligang culture manufactured and played bone flutes as early as 6500 BC[4]. This culture developed south of the Yellow River in the Henan province. Peiligang people practiced agriculture, hunting, and fishing. They also manufactured pottery and stone tools. Such activities, which may seem unrelated to music, are in fact very much related to musical practices. For example, a number of Peiligang burials located at the Jiahu site, in Henan, yielded bone flutes. These artifacts are of high value and therefore objects of prestige. This suggests that the burial contains the remains of either a late musician, who evidently was buried with his musical instruments, or of an individual of high status within that society.

During the Neolithic period, most musical instruments were made out of readily available materials, such as wood, bone, and leather. These materials are known as organic as they derive from living or recently dead organisms. In contrast to inorganic materials, such as stone, clay, and metal, organic materials tend to disintegrate quickly in most environments (Cronyn, 1990). This could be the reason why prehistoric chordophones have not been found in China, a fact which leaves many questions unanswered. Nonetheless, it is attested that Neolithic people in China played drums, such as the alligator drum and the pottery drum. Like bone flutes, these instruments were discovered in burial contexts and thus deposited in graves along with the deceased. Such burials are located at Dawenkou in Shandong (4300–2400 BC) and Longshan sites (3000–2000 BC) in Shandong.[5] With regard to pottery drums, their discoveries concentrate within an area that extends from Shandong in the east to Qinghai in the west. The drums' antiquity ranges from *c*.5500 to 2350 BC.[6]

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[4] Zhang, Juzhong and Xiao Xinghua. 2002. Music in the 7th Millennium B.C.: The Natural and Social Background of the Origin of the Jiahu Bone-Flutes, Central China, Studien zur Musikarchäologie, 3: 147-53.

[5] Shao Wangping. 1989. Yugong Jiuzhou De Kaoguxue Yanjiu. *Kaoguxue Wenhua Lunji*. Edited by Su Bingqi. Beijing: Wenwu Press, 11-30; Liu, Li. 2004. *The Chinese Neolithic: Trajectories to Early States*. Cambridge: Cambridge University Press.

[6] Gao, Tianlin. 1991. Huanghe Liuyu Xinshiqi Shidai De Taogu Bianxi. *Kaogu Xuebao* 2: 125-40.

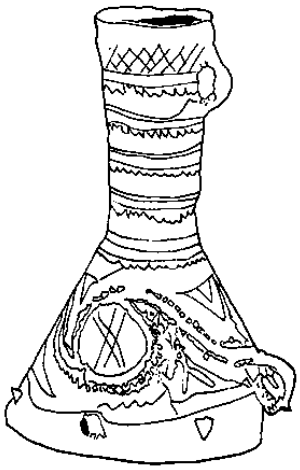

Figure 2: Neolithic pottery drum from Lanzhou in Gansu, Majiayao culture, redrawn from Liu, 2004: 124 with permission.

WHAT IF THEY USED A MUSICAL BOW?

It goes without saying that Neolithic communities in China used the bow for hunting purposes. Whether they used it as a sound-producing device is not clear. However, the fact that they manufactured drums may suggest that they used the bow as a musical instrument as well. The reason lies in the fact that both percussion and string instruments need tension. That is, in order to achieve a desirable sound in a drum, one needs to tighten or loosen the drumhead. Archaeological evidence, in the shape of pottery drums, indicates that Neolithic people had a way to tighten or loosen the drum skin. These artifacts narrate a process in which the artisan stretches an animal skin over the drum's rim located in the upper extreme of the instrument. The skin is then left to cure. As the skin dries, it tightens up. As a final step, the artisan securely laces the skin to the drum. Another well-known method is rope-tensioning, a method in use nowadays. Like the drumhead, the bow's string also needs to be tightened or loosened. It is being suggested that the fact that a string produces different sounds, whether on being tightened or loosened, did not go unnoticed by early man.

The lack of hard evidence, that is, of Chinese prehistoric chordophones, leads us to study comparative data from nearby societies. People in Neolithic China began to farm silk during the Yangshao period (*c*.5000–3000 BC).[7] Along with this, it is believed that they started to trade with neighbouring societies.

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[7] Shinan, Ren. 1999. Prehistoric Agriculture in China. *Exploring China's Past New Discoveries and Studies in Archaeology and Art*. Edited by Roderik Whitfield and Wang Tao. London: Saffron.

For example, they exchanged goods and commodities with inhabitants of the Iranian plateau, such as the ones from Tepe Sialk, as early as 4000 BC.[8] Thus, by tapping into old routes of exchange and communication, Neolithic peoples created a commercial network. To this network, one has to include the people from Ur (lower Mesopotamia), who were the most ambitious. The Uruk people (4000–3000 BC) were eager to obtain goods, commodities, and manpower. Their attempts to expand and with all that this involves, namely, to settle, domesticate, and exploit large areas of land, demonstrates this.[9] The material culture of the people from Ur spreads to various cities, such as Susa (south-west Iran), Godin Tepe (north-western Iran), Habuba Kabira (northern Syria), and Arslantepe (upper Euphrates, Turkey). However, this extensive exchange of cultural traits seems not to have influenced Chinese culture. This could be the reason why chordophones from Mesopotamia or string instruments with similar characteristics did not find their way to China.

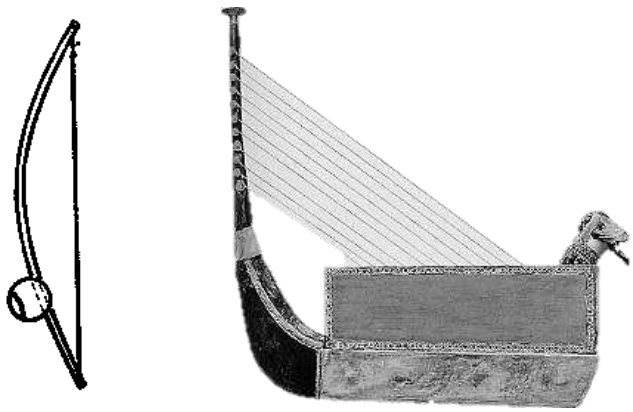

Figure 3: A musical bow and a harp from Mesopotamia. Both chordophones probably owe their origins to the archer's bow, redrawn from Dumbrill with permission.[10]

People from Mesopotamia, and particularly from Ur, developed different types of chordophones, of different shapes and numbers of strings.[11] The fact that these instruments differed from each other indicates a development in

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[8] Watson, W. 1983. Iran and China. The Cambridge History of Iran. Edited by E. Yarshater. Cambridge: Cambridge University Press, 537-558, DOI:10.1017/CHOL9780521200929.017.

[9] Matthews, Roger. 2013. Peoples and Complex Societies of Ancient Southwest Asia. The Human Past: World Prehistory & The Development of Human Societies 3rd ed. Edited by Chris Scarre. London: Thames & Hudson, 442-443.

[10] Dumbrill, Richard J. 2005. The Archaeomusicology of the Near East. Victoria and Oxford: Trafford Publishing, 231.

[11] Dumbrill, Richard J. 2005. *The Archaeomusicology of the Near East*. Victoria and Oxford: Trafford Publishing.

manufacturing techniques which, most likely, went hand in hand with changes in musical practices, in the way of making music, as well as in the music demands of the epoch. If we have to think of a Chinese chordophone from the Neolithic period, it would undoubtedly be the musical bow.

On the Verge of History

It is clear that early Chinese communities did not develop in isolation. Undoubtedly, they did not isolate themselves from nearby societies; otherwise, they would have declined or simply died off. Commerce grew and Chinese silk made a strong impact in the west, while western commodities, including music and musicians, contributed, to some extent, to Chinese customs and practices. During the Shang dynasty (*c*.1500–1045 BC), the recurve cupid bow was developed. As far as is known, this bow was specially made for warfare. It was short and powerful, providing penetrating power.[12] Ancient Chinese artisans may have invested a considerable amount of time into such technological advances. Craftsmen surely tried different types of wood and thread so as to find the right combination. This high-quality bow diffused from Shang China to neighbouring communities located in the Altai Mountains and the steppes.[13] During the rule of the Shang dynasty, artisans manufactured and perfectioned not only weapons but also musical instruments. Burials, dating from this period, have yielded stone chimes (*qing*), clay ocarinas (*xun*), different types of drums, such as the dual-toned bronze bells (*ling* and *nao*), barrel-shaped drums (*gu*), and bronze drums.[14] Thus, it is very likely that they also manufactured chordophones. In other words, one cannot conceive the idea that nobody observed that if a round object, for instance, a dry emptied gourd, is attached to the bow, the sound produced by the string, while it is being plucked, is amplified. We know that the gourd was one of their main products. Later, the gourd would acquire a much more profound musical meaning.[15] The fact that ancient Chinese people

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[12] Gorelik, M. V. 1993. *Oruzhie Drevnego Vostoka*. Moskva: Nauka, 69.

[13] Anthony, David W. and Dorcas R. Brown. 2011. The Secondary Products Revolution, Horse-Riding, and Mounted Warfare. *Journal of World Prehistory*, 24: 156.

[14] Tong, Kin-Woon. 1983. Shang Musical Instruments: Part One, *Asian Music*, 14 (2): 17-182; Tong, Kin-Woon. 1983. Shang Musical Instruments: Part Two, *Asian Music*, 15 (1): 103–184.

[15] The eight types of ancient Chinese musical instruments are metal, stone, earth, leather, silk, wood, gourd and bamboo. Metal refers to bell, stone to chime, earth to ocarina, leather to drum and rattle, silk to zither and *se*, wood to percussion, gourd to free reed mouthpiece, while bamboo refers to *xiao* and pipe. Li, Ziran. 2022. Aesthetic Origin of the Metal and Stone Sound in the Chinese Seven-String

were buried along with musical instruments, weapons, and chariots suggests that sound-producing devices were used in battles. Thus, warriors may have used musical and nonmusical bows to produce sound and perhaps to make signals. The fact that such artifacts were deposited in burials with their former owners suggests this. Musical bows usually have one string stretched between the ends of a flexible stick. For example, the contemporary *tzetze*, a *zither* from Uganda, has one string, a small gourd for a soundbox, and frets which provide different tones. In some traditional societies, however, performers use their mouths as a resonator, a practice which certainly improves resonance. Another custom is to support the bow on a hollow object. Although the conceptual thoughts associated with these practices are ancient in origin, and may go back to prehistoric times, the Dan people from the Ivory Coast in Western Africa still make use of the hunting bow as a musical instrument. The Metropolitan Museum of Art (The Met) keeps a Chinese musical bow which dates back to the 19th century AD (Figure 4).

Figure 4: Chinese musical bow made out of bamboo, overall dimensions: 61 cm. Photographed and reprinted with permission.

ON THE EARLIEST WRITTEN SOURCES AND ARCHAEOLOGICAL EVIDENCE

Written evidence, in the form of inscribed bones, indicates that chordophones were used in prehistoric China, that is, before 1500 BC. The oracle bones scripts (OBI), which date back to approximately 2500–1900 BC, show the pictographic graph for *yue* (music) shaped as 'silk on wood', and in later Western Zhou (approximately 1045–771 BC) and Spring and Autumn period

Zither Music, *Advances in Education, Humanities and Social Science Research* (ICSECSD), 1 (1): 56.

(approximately 770–481 BC), an additional 'θ' shape was added, which is interpreted as a tuning peg; the overall shape seems to be a *guqin*.[16]

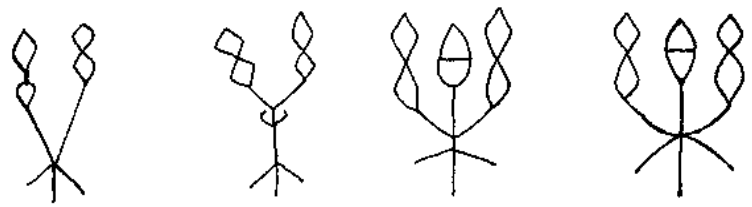

Figure 5: Graphs for yue (L-R) 1-2: OBI, 3: Zhou, 4: Spring and Autumn period, drawings by the author.

The following OBI suggests the existence of two types of string instruments: OBI 4 shows a character which may be interpreted as a string instrument. [17] In the present writer's opinion, this character seems to indicate a monochord, probably a bow.

Figure 6: OBI 4, redrawn.

OBI 3 shows a character that denotes a string instrument.[18] This character seems to indicate a chordophone of two strings. The upper part, which consists of three strokes, reminds us of the wooden beam (the yoke) used between a pair of oxen. Thus, this may be linked to ancient Mesopotamia, where the 'bull' lyre was invented.

Figure 7: OBI 3, redrawn from Tong.[19]

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[16] Wang, Patrick. 2023. Personal communication.

[17] Tong, Kin-Woon. 1983. Shang Musical Instruments: Part One, *Asian Music*, 14 (2): 17-182; Tong, Kin-Woon. 1983. Shang Musical Instruments: Part Two, *Asian Music*, 15 (1): 103–184.

[18] Tong, Kin-Woon. 1983. Shang Musical Instruments: Part One, *Asian Music*, 14 (2): 36.

[19] Ibidem.

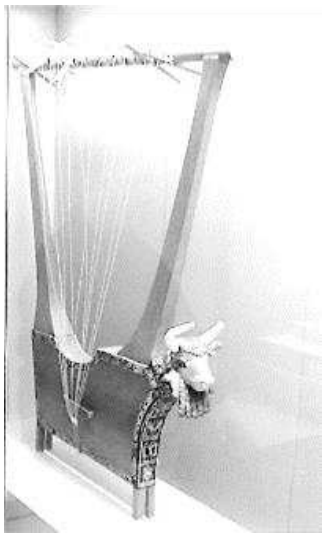

Figure 8: The 'Bull' Lyre from Ur, Mesopotamia, photograph by the author with permission.

The three types of zithers discovered at the tomb of the Marquis Yi of Zeng in Wuhan, which date back to the Warring States Period (481–221 BC), and evidently not to prehistoric times, indicate a gradual development of the zither's manufacture. For example, the zither of the type *qin* is much simpler than the one of type *se*. While the zither *qin* is made out of a single piece of wood and has 10 strings, the zither *se* consists of a hollow rectangular box and probably had between 23 and 26 strings or 19 to 21 strings. It is important to say that the rectangular box of the zither *se* is made out of several pieces of wood which are joined by means of dowels and staples made out of bamboo. The other type of zither found in the tomb of the marquis Yi of Zeng, namely, the *zhu,* resembles a guitar in the way it is built. Its body is slim and long. The wide part of the body is hollow, while the upper part, that is, the neck, is solid. The body is embellished with decorations. It has been suggested that the *zhu* was struck with a stick and that the chordophone had five strings.[20] In light of this information, we can say that within the group of zithers found in this tomb, the zither of the type se seems to be the most modern and thus suggests a *terminus post quem*, while the zither of the type qin seems to be the most ancient and therefore the *terminus ante quem*. The zither of the type *zhu*, technologically speaking, seems to be the transitional specimen between the *qin* and the *se*. The southeast coast of China has yielded a fourth type of zither

[20] Lawergren, Bo. 2000. Strings. *Music in the Age of Confucius*. Edited by Jenny F. So. Washington: Freer Gallery of Art and Arthur M. Sackler Gallery Smithsonian Institution, 65-86.

which has 14 strings. This instrument has a hollowed trapezoidal body that was probably closed by a thin board.[21]

Figure 9 (from left to right): Zither se, qin, and zhu. Photos by courtesy of Gary Todd, printed with permission.

These three types of zithers may have been given to the Marquis as a gift or used as a method of payment. In the ancient world, as in contemporary times, musical instruments were meaningful objects as they symbolized harmony.[22] The Marquis may have acquired the zithers from a man of the state who may have been seeking political harmony, the sealing of an agreement, a pact, or a truce. However, there is also the possibility that these instruments served as currency. In the past, metal pieces were not solely used as a method of payment but so were finished artifacts, such as shells and knives. In the case of finished objects, such as musical instruments, both the value and the craftmanship were considered as currency in the exchange of goods.

CONCLUSION

The fact that a number of Chinese prehistoric burials have yielded bows allows me to suggest that these were used both for warfare and to produce sound. Nevertheless, this requires further exploration. Thus, these artifacts need to be examined from a musical point of view. One has to keep in mind, however, that the period in question, that is, prehistory, substantially differs from our own and, as a consequence, it is not easy to ascribe any function to objects.

At first glance, one can see, that contemporary Chinese chordophones, such as the *sanxian* (three-string lute) and the *erhu* (two-string fiddle), have retained traits from neolithic musical instruments. For instance, the sanxian has a small box for a body with snakeskin and strings made out of silk. This reminds us of the gourd, which is often used to supposedly amplify the sound in bow zithers. It also brings to mind the neolithic alligator's drum, whose drumhead was made out of crocodile skin. The strong bond that existed, and still exists, between the man from the steppes and his horse may be echoed in

[21] Ibidem

[22] Fox Brindley, Erica. 2012. Music, Cosmology, and the Politics of Harmony in Early China. New York: State University Of New York Press.

the *erhu*. Basically, in order to produce sound on this fiddle, one needs to rub the strings with a bow made out of horse hair, almost in the same way one brushes a horse, that is, in the direction of the hair growth. With regard to the ancient *qin*, this instrument has the shape of a human body, as represented by the Cycladic people during the Neolithic period. The *qin* is basically made up of a combination of neck and body and thus recalls the lute. The lute was invented in Mesopotamia before 3000 BC, during the time when resonators were replaced by acoustic boxes. It is known that this instrument diffused to the steppes during the Uruk expansion and was possibly introduced to Central China from there. The difference that exists between the zithers discovered at the Marquis Yi of Zeng in Wuhan leads us to think on the possibility that they come from different regions. As already mentioned, the zither of the type *qin* may have come from the north, while the *se* may have come from the south as the first specimen was discovered in Changsha, Hunan Province. The zither of the type *zhu* may have come from the central area, while the type *zheng* from the southeast coast of China, as specimens have been found in that area. The possession of such instruments may have meant dominion over those regions or some sort of pact or Waffenstillstand during a time of war.

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REMARK

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The Practice of playing zithers in Bosnian and Herzegovinian Coffee Houses from a Historical Perspective

Jasmina Talam[1] and **Lana Šehović**[2]

Abstract

Throughout history, Bosnia and Herzegovina has occupied a peripheral position at the meeting point of major cultures and civilizations – East and West, the Mediterranean, and Central Europe. It was subject to their influences, but it also developed a sociocultural arena in which these influences merged with one another and underwent a process of continual transformation. In the midst of these social and political changes, there arose a multifaceted and colorful musical practice. During the Ottoman rule (1463–1878), a specific urban music practice developed, whose bearers, among the others, were professional musicians. From the time period of Austro-Hungarian rule (1878–1814), professional musicians and music ensembles played in two different types of cafes – *ala turca* and *ala franca*. Professional musical ensembles were very diverse in composition and used various instruments, including the cymbal and qanun, both zithers.

This paper attempts to provide insight into the practice of playing cymbals and qanuns in Bosnian Cafes from a historical perspective.

Keywords

Zithers, Bosnia and Herzegovina, Urban music, Coffeehouses, Historical method

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INTRODUCTION

Bosnia and Herzegovina is situated in southeastern Europe, on the western part of the Balkan peninsula. In the geographically small but historically and culturally rich area where East and West meet, traditional musical practice is diverse, dynamic, and picturesque. Throughout its history, Bosnia and Herzegovina has occupied a peripheral position at the meeting point of major cultures and civilizations – East and West, the Mediterranean, and Central Europe. It was subject to their influences, but it also developed a sociocultural arena in which these influences merged with one another and underwent a process of continual transformation. In the midst of these social and political changes, there arose a multifaceted and colorful musical practice. The period of Ottoman empire in Bosnia and Herzegovina lasted for full four centuries (1463–1878) and had left important trace which is nowdays recognizable in traditional musical praxis. Ottoman arrival brought various kinds of music instruments that have not been known in Bosnia and Herzegovina before.[3] This primarily refers to instruments of Turkish military orchestra – mehterhanas such as talambas, drum, zurna, and long-necked lutes generally called tambura's[4]. The mentioned instruments have remained in the folk music tradition of Bosnia and Herzegovina. Written sources testify that in the musical practice of Bosnia and Herzegovina, instruments of the zithers type, especially the santur (hammered dulcimer), were also used. Although it is assumed that they arrived via dervishes of the Mevlevi order[5], their use is mainly associated with wedding customs[6].

Openness, as well as exposure, to the "new" becomes one of the characteristic signs of the Austro-Hungarian empire, whose new system of governance, oriented toward Western European standards, brought the Western European cultural spirit to the population of Bosnia and Herzegovina. Musical life, which during the Ottoman administration was based on traditional musical practice, where the practice of contemporary art music was limited to narrow diplomatic circles, is now developing under the influence of the cultural policy

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[3] Tamara, Karača-Beljak and Jasmina, Talam, "Ottoman influence on folk music tradition of Bosnia and Herzegovina", *Muzikološki zbornik* 45, 1 (2009):117–127.

[4] In more detail, in Jasmina, Talam, "Mehterhane and their influence on the Bosnian folk music", in *Militärmusik zwischen nutzen und missbrauch*, ed. Manfred Heidler (Bonn: Militärmusikdienst der Bundeswhr, 2010), 9–16.

[5] Risto Pekka Pennanen, "The God-Praising Drums of Sarajevo", *Asian Music* 25, 1/2 (1993–1994): 1–7.

[6] Kasim Gujić, "Muslimanski ženidbeni običaji u zapadnoj Hercegovini", *Gajret* XVII, 11 (October 1936), 175–179.

of the Monarchy. In this period, new instruments such as the violin[7], accordion, clarinet,[8] and zither appeared in Bosnia and Herzegovina. At the end of the 19th century, the violin became very popular in Bosnia and Herzegovina, and in the 1900s, the clarinet and accordion. Unlike the aforementioned instruments that were accepted in the folk music tradition, zithers were exclusively played by foreigners.

Although the practice of using the zither is not noted in folk music practice, we can follow its use through the prism of the newly formed musical infrastructure of the Western European type. The newly created infrastructure of musical life was the result of the general development of the social and public life of the citizenry, and it bore the stamp of urban life, even when the population of Bosnia and Herzegovina began to join it. The development of urban music infrastructure was reflected in the construction of concert spaces and the appearance of public music events, the appearance of writings about music, and the development of music publishing.[9] The enumerated elements of the infrastructure were focused on the gathering and sociability of citizens (choral societies, tamburica societies and orchestras, public concerts, musical performances, parties, dance parties, *a la franca* and *a la turca* caffehouses, etc.), and within these frameworks, all musical events were realized.[10] This also applied to instruments such as the zither, whose use and "appearance" in the musical life of the Austro-Hungarian period were based on the main pillars of the musical infrastructure.

Zithers on Improvised Concert Podiums

The transition from the Ottoman to the Austro-Hungarian system of cultural appreciation led to the tendency for musical events that were held in a narrow circle of citizens, diplomats, and well-to-do people to be moved to larger,

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[7] In the folk music tradition of Bosnia and HerzegoviHerzegovina known as ćemane. According to some sources, the violin is found in Bosnia in the middle of the 19th century in the „Naredba" printed in the magazine Bosna: list for vilayet affairs, news and public benefits from September 20, 1867.

[8] In the folk music tradition of Bosnia and Herzegovina, it is known as krnata.

[9] Paćuka, Lana. 2014. Muzički život u Sarajevu u periodu Austro-Ugarske uprave (1878–1918) [Musical life in Sarajevo in the period of the Austro-Hungarian rule]. PhD diss., University of Sarajevo. Unpublished ms., 55.

[10] Jasmina Talam and Lana Paćuka, "Echoes of Forgotten Times: Professional Folk Musical Ensembles in Bosnia and Herzegovina (1878-1918)", *Muzikološki zbornik* 54, 1 (2018): 75–87.

publicly accessible spaces.[11] The citizens, whose ranks were led by settlers and Austro-Hungarian officials, initiated the construction of public facilities for multipurpose use, which, among other things, were supposed to have a space easily usable for organizing musical events. Given that practice of holding public type concerts according to Western European standards did not exist in the earlier stages of the history of music in Bosnia and Herzegovina, the construction of such facilities was a necessary step toward the realization of an organized musical life.[12]

Before the first buildings that could host a large number of visitors appeared, public events usually took place in open city areas (e.g., Franjo Josip Square, Cirkus Square, etc.) as well as in peripheral parts of the city such as Bentbaša or the Ilidža swimming area.[13] It is important to mention that these impromptu public gathering places of citizens allowed the wider masses to get to know the social trends that had arrived. In the musical sense, at least in the beginning, it was not about productions at a high artistic level but about interpretations whose character was adapted to the level and cultural needs of the general public. It was usually about dance, circus, phonographic, cinematographic, or singing productions of an entertaining nature. In this regard, Circus Square stood out, where a circus tent was once set up, where numerous circus and dance performances were held.[14]

Figure 1: Postcard of Circus Square and the tent placed on it[15]

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[11] Lana Paćuka, "Građansko društvo – nukleus razvoja zapadnoevropske muzičke kulture Bosne i Hercegovine u austrougarskom periodu", in Zbornik radova 7. Međunarodnog simpozija Muzika u društvu, ed. Jasmina Talam, Fatima Hadžić, Refik Hodžić (Sarajevo: Muzikološko društvo FBiH, 2012), 20.

[12] Paćuka, Lana. 2014. Muzički život u Sarajevu u periodu Austro-Ugarske uprave (1878–1918) [Musical life in Sarajevo in the period of the Austro-Hungarian rule]. PhD diss., University of Sarajevo. Unpublished ms., 57.

[13] Ibidem, 58.

[14] Ibidem

[15] Magbul Škoro, *Pozdrav iz Sarajeva* (Sarajevo: Graphic Car, 2005), 15. Printed with permission.

Over time, Cirkus Square became the host of cinematographic and phonographic productions, "Edison's theater"[16] and "Vivandodophon,"[17] who regularly included musical elements in their programs[18]. This kind of conception of content-varied programs was characteristic of all public events that were held in spaces without a clearly defined purpose and which played a significant role in the first steps of the massification of all forms of the Western European cultural tradition.

Figure 2: Music Pavilion in Franjo Josip Square[19]

A significant place in the development of public musical life was also played by the so-called music pavilions – popular at the beginning of the 20th century. For musical practice, outdoor concerts were an established phenomenon, which became pronounced during the second half of the Austro-Hungarian administration. In the evenings during the summer months, the Sarajevo pavilions offered a series of concert activities to music lovers and passers-by. A particular favorite was the pavilion located across the street from the Franz

[16] *Hrvatski dnevnik*, "Edisonovo kazalište", 6 June 1907 (151), 9.

[17] *Srpska riječ*, "'Viandophon' kinematograf", 29 January 1908 (22), 4.

[18] In 1907, "Edison's Theatre" gave performances with musical accompaniment every night for several weeks. Performances started at 8 or 9 p.m., and the program changed on a weekly basis. However, one of the problems when reconstructing the performance of such and similar plays is that the available sources do not provide a precise insight into the performance method, as well as the character of the musical points that were interpreted. Considering the frequent visits of Edison's representatives, who visited Sarajevo for the promotion of numerous cinematographic and phonographic achievements, it can be assumed that in this case it was also about similar productions. *Hrvatski dnevnik*, "Edisonovo kazalište", n.d. 1906 (no. 151), 9.

[19] Historical Archive Sarajevo. Razglednica – Sarajevo Musikpavillon [Postcard – Sarajevo Musikpavillon]. Unpublished ms. ZFR-1955-1.

Josef military barracks – built on the park of the same name in 1913.[20] The proximity of the pavilion to the most important military center located in the heart of the city made it one of the most common places for public concerts of military music, which was accepted with approval by the general public.

In the Franz Josef Pavilion, other instrumental ensembles also played, often those who performed traditional music, or the pavilion hosted traveling groups of Roma musicians from Serbia. For example, Bertolini cites the example of the orchestra of the Hungarian regiment, which played happy tunes and then military marches. He especially emphasizes the nostalgic sounds of the flute and zither, which created a sense of melancholy.[21]

Figure 3: Franz Josef Music Pavilion[22]

A music pavilion stationed within the Ilidža swimming area had a similar concept of work. Considering the rich social life that this swimming place had in the summer season, various concerts, especially of a popular and "folk" character, took place on a daily basis. It was about charity concerts and parties where military music was played and guest artists, many choral groups, and

[20] The pavilion was built on the site of the former At-mejdan – the old town square from the 17th century, which once housed a hippodrome. After the arrival of Austria-Hungary, At-mejdan was renamed Filipović Square (1878), and in 1905, the Franz Josef Park was built on the same spot, on which a pavilion was erected a little later. Škoro, *Pozdrav iz Sarajeva*, 231.

[21] Bertolini, Gino. 1911. *Muselmannen und Slawen. Dalmatien -Kroatien – Bosnien und Herzegowina*. Leipzig: Dieterich.

[22] Ibidem, 226.

so on and professional musical ensembles from various parts of the monarchy performed. During 1910, the so-called *Summer Festival* was organized[23], and the above example was not an isolated case because the Ilidža Pavilion was one of the city's main gathering places. During the holidays, as well as on Sundays, the Pavilion became a place of folk entertainment and rejoicing, for the purpose of which numerous parties were organized, followed by the performances colored by folk tradition; however, the appearance of the zither in the framework of such festivities and gatherings, unfortunately, has not been noted.

ZITHERS IN COFFEE HOUSES

In addition to spaces that were built with the intention of meeting the needs of as many audiences as possible and thus responding to the needs of public life, over time, a whole series of smaller/improvised concert spaces appeared in Sarajevo, with a more intimate character that received a smaller number of visitors. It was an increasingly popular practice organizing concerts in the so-called a *la franca* caffehouse, in which, among other things, the performances of zither players were noted[24]. The musical practice of *a la franca* caffehouses represented a typical outgrowth of bourgeois European culture, which was a continuation of the sociocultural gathering typical for the period of the Ottoman administration.

Coffeehouses can be defined as informal public gathering places. According to Oldenburg, coffeehouses represent "neutral ground upon which men discovered the another part from the classes and rank that had earlier divided them"[25]. By their nature, they are inclusive places "accessible to the general public and does not set formal criteria of membership and exclusion".[26] However, Bosnian coffeehouses transcend the boundaries of culture and time, and it is possible to distinguish them in two different types – *a la turca* and *a la franca*. The former, Ottoman caffehouse, which were located in old, oriental parts of Bosnian and Herzegovinian cities, became recognizable because they nourished the so-called *a la turca* tradition, which was related to

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[23] *Bosnische Post*, "Sommerfest des Typographen Vereines", 21 June 1910 (132), 2.

[24] Talam, Jasmina and Lana Paćuka. 2018. Echoes of Forgotten Times: Professional Folk Musical Ensembles in Bosnia and Herzegovina (1878–1918). *Muzikološki zbornik 54* (1): 75–87.

[25] Oldenburg, Ray. 1999. *The Great Good Place: Cafe´s, Coffee Shops, Community Centers, Beauty Parlors, General Stores, Bars, Hangouts, and How They Get You Through The Day*. New York: Marlowe & Company, 24.

[26] Ibidem

the fulfilment of oriental sociocultural values. Murko states that the *a la turca* coffee house was one of the ways of public socializing and having fun but also the place where traditional folk music, mostly performed by professional folk players, could be heard.

> "Main places of singing in the public were the caffehouse and bars. Caffehouse are commonly called both 'kafana' and 'kavana', but also 'kava' and 'kahva'. The most typical coffehouse are in Bosnia and Herzegovina… Their interior is very simple. Couches, on which pillows filled with wool or straw are placed, are located near the wall and on the opposite side, blue or red linen is spread. A better and larger pillow is placed only at the corner of the couch – the place where the aga or bey who visits the caffehouse every day would sit…In southeastern Bosnia, in Višegrad, gusle could be found in Orthodox coffehouse until the world war (1914); while today, they can be mostly found among Muslims, but in the place Rogatica which is located nearby, gusle can be found in seven Orthodox and four Muslim caffehouse where peasants sing when they come to the city."[27]

Vlado Milošević recorded that in the *a la turca* caffehouse, the singing with the tambura could often be heard.

> "Some time ago, in every Bosnian caffehouse (and those were places where alcohol was not poured), tambura (šargija or saz) were placed on the wall as an inventory of the caffehouse. Everyone was allowed to both play and sing, but there was an unwritten rule that only skilled and serious singers can take the šargija in their hand. Because this was not the place where somebody would learn how to sing or perform various mischiefs or unserious actions. The caffehouse was a public stage where the audience, with lots of understanding and love, followed the recitals of heroic songs or singing of lyrical, straight or other songs."[28]

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[27] Original text: "Glavno mjesto pjevanja pred javnošću su kafane i gostionice. Za kafane je uobičajen izraz kafana i kavana, ali i kava i kahva. Najtipičnije ovakve kafane su u Bosni i Hercegovini... Unutrašnjost im je vrlo jednostavna. Kraj zida su smještene sećije, na kojima su jastuci ispunjeni vunom ili slamom, a preko njih prostrto plavo ili crveno platno. Samo je u uglu sećije bolji i veći jastuk – šiljte, mjesto za istaknut agu ili bega koji posjećuje kafanu svaki dan....U jugoistočnoj Bosni u Višegradu, nalazile su se gusle u pravoslavnim kafanama sve do svjetskog rata (1914); danas ih ima više kod muslimana, ali već u obližnjoj Rogatici nalaze se još gusle u sedam pravoslavnih i četiri muslimanske kafane u kojima pjevaju seljaci kada dolaze u grad. → Murko, Matija. 1951. *Tragom srpsko-hrvatske narodne epike: Putovanja u godinama 1930-1932*. [*In Pursuit of the Serbo-Croat Folk Epic. Travels in 1930–1932*]. Zagreb: JAZU, 354.

[28] Original text: "Nekad je skoro u svakoj bosanskoj kafani (a to su bili lokali u kojima se nisu točila alkoholna pića) na zidu visila tambura (šargija ili saz) kao kafanski inventar. Bilo je svakom dozvoljeno i da zasvira i da zapjeva, ali je bilo nepisano pravilo: da su samo vješti i ozbiljni pjevači smjeli da prihvate šargiju u ruku. Jer to nije bilo mjesto gdje bi se neko učio da svira ili da izvodi kakve šeretluke ili

Mustafa Mulalić states that "original Bosnian music" was performed in numerous Sarajevo coffeehouses, such as *Isić's coffeehouse*, *Hadža Šaban's coffeehouse* in Bembaša, *Klinčar's coffeehouse*, *Gurda's coffeehouse* near Bjelave, which also had šadrvanes, *Braća Cigić's coffeehouse*, *Hajra's coffeehouse* near Hrastovo, *Pehla's 'Bostan' coffeehouse*, and *Mula's coffeehouse* on Vratnik Mejdan.[29] The first *a la turca* coffeehouse that was modernized in a European way was *Pehla's coffehouse* in Bembaša.[30] According to written sources, the first chapel in Bosnia and Herzegovina played there and for the first time, music was heard from a gramophone. [31] Asboth states that beys gathered here, as well as Austro-Hungarian soldiers and officials. The coffeehouse had a large garden, lit up with colorful lanterns. It is interesting to mention that it had a raised stage for musicians and dancers. In the garden, there were tables and "European" chairs characteristical for *a la franca* coffeehouses, and on the sides couches in *a la turca* style.[32] According to available sources, Roma musical ensembles played in the coffehouse, which included different types of tambouras and violins.

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neozbiljne akcije. Kafana je bila javna tribina sa auditorijem koji je s puno razumijevanja i ljubavi pratio recitovanje junačkih ili pjevanje lirskih, ravnih i drugih pjesama." Milošević, Vlado. 1962. Tambura i harmonika u bosanskom varoškom pjevanju. *Zbornik Krajiških muzeja 2*. Banja Luka: Muzej Bosanske Krajine, 132–133.

[29] Mulalić, Mustafa. 1960. *Jugoslovenska mekamska muzika istočnog područja I* [Yugoslav Maqam music of the eastern region I]. Sarajevo: Historijski Arhiv, Unpublished ms. 147–148.

[30] From 1878, it was called the *Bostan coffee house*.

[31] Bejtić, Alija. 1953. Prilozi proučavanju naših narodnih pjesama. [Contributions to the Study of our Folk Songs]. *Bilten Instituta za proučavanje folklora 2*: 402.

[32] Asboth, Johann. 1888. *Bosnien und die Herzegovina: Reisebilder und Studien [Bosnia and the Hercegovina: Travel Scenes and Studies]*. Wien: Alfred Hölder Solder, 201.

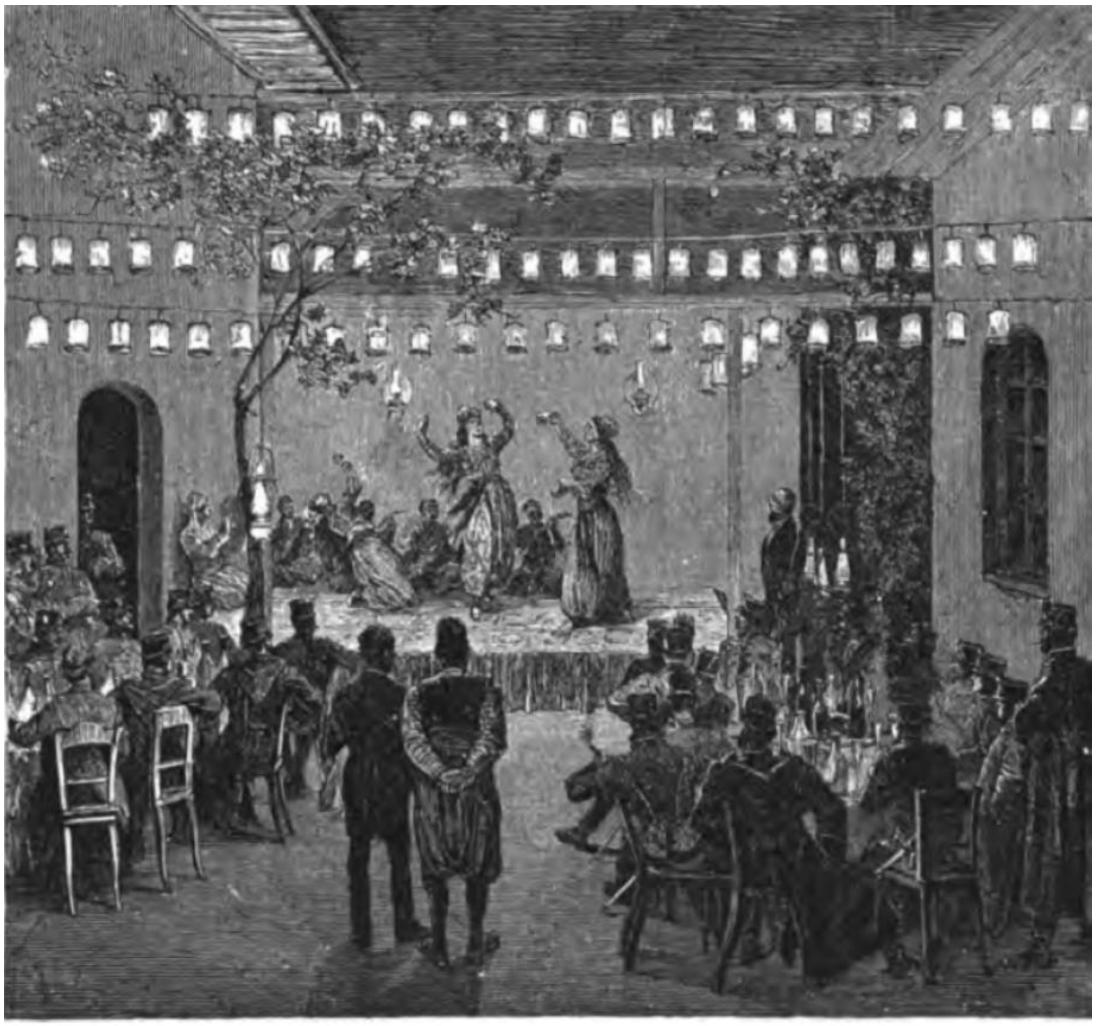

Figure 4: Pehla's coffee house.[33]

Furthermore, Čurčić states that "sarajevske čalgadžije" played in Pehla's coffeehouse – an ensemble that had four players: saz, two violins, and a def.[34] It is interesting to mention that an identical ensemble appears as an illustration in Ćurčić's work and Asboth's travelog.

[33] Asboth, Johann. 1888. *Bosnien und die Herzegovina: Reisebilder und Studien [Bosnia and the Hercegovina: Travel Scenes and Studies]*. Wien: Alfred Hölder Solder, 201.

[34] Ćurčić, Vejsil. 1935. Sarajevska čalgija. *Glasilo HKD Napredak u Sarajevu X (1)*: 6.

Zigeuner

Sarajevske čalgidžije iz negdašnje Pehline kafane.

Figure 5 and 6: Roma musicians[35] and Sarajevska čalgija[36]

In the context of speaking about the zither, it is interesting that the first information about their use in Bosnian coffehouses was noted by Valerijan Žujo in *Lexikon of Sarajevo* (2009). He states that visitors to the *Hadži Šaban's coffeehouse*[37] "read Turkish newspapers, played many board games, listened to the music and played on the qanun".[38] Unfortunately, there is no more precise information about the music that was performed, nor about the players who played the qanun.

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[35] Asboth, Johann. 1888. *Bosnien und die Herzegovina: Reisebilder und Studien [Bosnia and the Hercegovina: Travel Scenes and Studies]*. Wien: Alfred Hölder Solder, 181.

[36] Ćurčić, Vejsil. 1935. Sarajevska čalgija. Glasilo HKD Napredak u Sarajevu X (1): 6. Original photo of this ensemble is kept in the Archive of Bosnia and Herzegovina. Unfortunately, there is no information about the ensemble, nor the year it was created.

[37] *Hadži Šaban's coffee house* on Bembaša was built in 1592 and is considered the oldest coffehouse in Sarajevo. It was demolished in 1942 due to the construction of a state road.

[38] Europeana. N.d. *Vintage postcards of Southeast Europe*. *Bosnia and Herzegovina*. Accessible via https://www.europeana.eu/en/exhibitions/picture-this-vintage-post-cards-of-southeastern-europe/bosnia-and-herzegovina, last accessed 20th August, 2022.

Figure 7: Hadži Šaban's coffee house on Bembaša, postcard published by Caklović, year unknown.[39]

On the other hand "as their opposite, *a la franca* caffehouse began to open – symbols of gathering of immigrants and foreigners who started to arrive to Bosnia and Herzegovina in larger numbers. Therefore, visitors were members of the middle or lower class comprised of many public officials, lower-ranked soldiers, merchants, journalists, craftsmen and other members of the immigrants' part of the society. Caffehouses became popular places for social activities with multiple functions, where visitors, safe from all tight social norms of conduct, could find a pleasant atmosphere for having various conversations, drinking coffee or reading newspapers."[40] These kinds of gathering places were places where various social and business deals were made. In the coffehouse of the *a la franca* style, presentations of various technological accomplishments, characteristic for the end of 19th and the beginning of the 20th century, were held.

The division of caffehouses according to the *a la turca* and *a la franca* principle was generally accepted, and visiting one or the other depended on the personal affinities and social and cultural habits of each

[39] Europeana. N.d. *Vintage postcards of Southeast Europe*. *Bosnia and Herzegovina*. Accessible via https://www.europeana.eu/en/exhibitions/picture-this-vintage-postcards-of-southeastern-europe/bosnia-and-herzegovina, last accessed 20th August, 2022.

[40] Talam, Jasmina and Paćuka, Lana. 2018. Echoes of Forgotten Times: Professional Folk Musical Ensembles in Bosnia and Herzegovina (1878–1918). *Muzikološki zbornik 54* (1): 79.

individual.[41] The well-known yearbook *Bosnischer Bote* (1887–1918) also provided important information about the work of *a la turca* and *a la franca* coffeehouses. The yearbook stated, among other things, that the first group was predominantly owned by Muslims, while the owners of the second were mostly foreigners or members of the Orthodox or Catholic faith. Among Sarajevo's most famous *a la franca* coffeehouses and restaurants were *Café Abbazia* (owner Moritz Berger), *Café Central* (owner Anton Pratschke), *Café Europe* (owner Eduard Lasslauer), *Café Marienhof*, and *Café Grüner Hof* (owner Josef Tábory) but also many others who enjoyed popularity among immigrants and foreigners. In addition to general differences regarding social norms of behavior and cultural climate, music was one of the elements that had a decisive influence on the number of guests and the popularity of the coffehouse. Music often drew visitors "to this or that" side, as evidenced by the petitions of musicians sent to the National Government for the issuance of work permits:

> We foreign musicians neither want nor can compete with local musicians, because completely different circles/coffeehouses and inns of a better kind invite us to play for them, and completely different kinds again serve local musicians (...) who are distinguished both by their costumes and by their singing and are far different from us foreign players in terms of playing, and there are coffeehouses and restaurants in Sarajevo that will never invite local players (...) because their audience cannot get used to local players since they are far behind us foreign players in everything.[42]

In the travelog *Muselmannen und Slawen. Dalmatien-Kroatien-Bosnien und Herzegowina* from 1911, Bertolini notes that various musical ensembles played in Sarajevo's coffeehouses and restaurants. Local musicians or Roma ensembles played mostly in *a la turca* coffeehouses, and their repertoire mainly consisted of Bosnian music. Foreign musicians from various parts of the Monarchy played in *a la*

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[41] *Bosnischer Bote*, „Cafes und Kaffeesiederein – Handel und Gewerbetreibende der Hauptstadt Sarajevo“, III (1899), 206–207.

[42] Original text: Mi svirači ispreka, niti hoćemo niti možemo domaćim praviti konkurenciju, jerbo posve drugi krugovi/kafane i gostione bolje vrsti/ zvu nas, da im sviramo a posve druge opet služe domaćim sviračima (...) koji se i po nošnji i po pjevanju i po sviranju od nas stranih svirača daleko razlikuju, te imade kafana i gostijona u Sarajevu koje neće nikada domaće svirače prizvati (...) jerbo njihova publika ne može se nikako naviknuti na domaće svirače pošto ovi u svemu za nama stranim sviračima daleko zaostaju. → Archives of Bosnia and Herzegovina. 1908. Concession. ZVS, šf. 21 21/311.

franca coffeehouses and restaurants. It was about instrumental and singing ensembles from Germany, Austria, the Czech Republic, and Hungary and somewhat less often from Croatia and Serbia. The musical programs of the chapel were varied and covered a wide range of music, starting with works of Schrammel orientation, light notes of mood, and up to prominent artistic achievements.

Zither performers also found their place in the described environment, and some of the first data that testify to their appearance on the concert podium of *a la franca* coffeehouses concern the so-called women's chapels. Performances of women's chapels in *a la franca* coffeehouses were frequent, so the daily press of that time also recorded the performance of a women's ensemble that presented itself to the Sarajevo audience under the name Symphoni-Damenkapelle. The performance was held in the caffehouse *Grüner Hof*, and it was about artists of Hungarian origin, Gretta Febérváry, cellist, and Ottillie Puskas, dulcimer, who, according to Bosnische Post, held a successful all-night concert.[43]

Wo geht man am liebsten hin?
Ins Café-Restaurant
Grüner Hof.
Dort ist täglich
KONZERT
der weltberühmten ungarischen
Symphonie-Damenkapelle
unter der Leitung des Fräulein Grete Feberváry, am Cimbalt Frl. Ottilie Puskas.
Stets vorzügliche u. frischgekühlte Getränke.
Ganze Nacht geöffnet.
Um zahlreichen Zuspruch bittet
Josef Tábory,
Cafétier und Restaurateur.

Figure 8: Announcement of the concert in the caffehouse *Grüner Hof*[44]

[43] *Bosnische Post*. 1913. Die Damenkapelle im Café-Restaurant Grüner Hof. 2 October (227): 4; *Bosnische Post*. 1910. Sommerfest des Typographen Vereines. 21 June (132): 2*; Bosnische Post*. 1913. Who geht man am liebsten hin? 3 October (228): 8.4.

[44] *Bosnische Post,* "Who geht man am liebsten hin?", 3 October 1913 (no. 228), 8.

In addition to guest concerts in *a la franca* coffeehouses, long-term concert engagements were a frequent occurrence, which were preferred by the owners of the city's most prestigious cafes, such as *Marienhof*. Resident ensembles or artists meant a regular music program and therefore guaranteed attendance and financial profit for the owners. On the other hand, the permanently engaged artists had to offer an "attractive" and accessible program to the audience, which was also the case with the dulcimer Irene Genée, who, together with the violinist J. Reyan, interpreted fashionable waltzes and polkas in the Cafe *Marienhof* and Hotel *Central* every Wednesday starting from April 1910.[45]

Grand Hotel Central.

Durchschlagender Erfolg

Heute und die folgenden Tage

Grosse Konzertabende

der bestbekannten Zymballkönigin

Irene Gennee

und des Violin-Virtuosen

Mr. J. Reyam

— mit stets gewähltem Programm. —

Figure 9: Announcement of the concert in the *Grand Hotel Central*[46]

The musical practice of *a la franca* coffeehouses, in addition to female ensembles and chapels, also included the performances of renowned instrumentalists such as the German composer, bandmaster, pedagog, and excellent zither player Josef Omuletz, who during 1910 held a series of concerts in several city *a la franca* coffeehouses.[47] In addition to him, the sources also noted several zither ensembles consisting of three ladies and three gentlemen, and one such ensemble, whose

[45] Paćuka, Lana. 2019. *Ženski identiteti u muzičkom životu austrougarskog Sarajeva* [*Female identities in musical life of Austro-Hungarian Sarajevo*]. Sarajevo: Muzička akademija Univerziteta u Sarajevu, 118.

[46] Ibidem

[47] *Sarajevoer Tageblatt.* 1910. Konzert des Zihter – Solisten Josef Omuletz. 8 January (5): 3.

performance was announced in the respected daily newspaper *Sarajevoer Tageblatt*, was led by Kapellmeister N. Ruderer. The ensemble performed in 1908 at the *Hotel Goldenen Adler*, while the focus of the concert was the so-called Styrian zither, which is where the symbolic name of the musical evening came from: *Concert of the Styrian zither*.[48]

The above examples can be considered as an egregious example of the presence of the zither on the podium *a la franca* caffehouse, which had a prominent importance in the social–cultural and then musical life of the Austro-Hungarian period. Individual performances of zither players, as well as those in ensembles and women's chapels, fit into the cultural climate of that time, which was predominantly oriented toward fostering sociability and the so-called ambience of the "third" place, which for the employees of the administration and citizens meant a departure from the complex sociopolitical reality of Bosnian society. Although most of them were foreign artists, their performances enriched the sound image of the city, significantly contributing to its color and stylistic diversity.

Zithers in the Offer of Music Stores

Historical sources do not provide insight into the fact that instruments like the zither made their way from the concert podium dominated by foreigners to folk music practice. Nevertheless, it can be stated that the mentioned instruments were incorporated into an essential element of the musical infrastructure – music publishing and music stores – and thus probably into the homes of the citizens of Bosnia and Herzegovina.[49]

The appearance of music publishing was the result of the development of various segments of public musical life, that is, the consequence of the spread and popularization of Western European musical culture in

[48] *Sarajevoer Tagblatt.* 1908. Koncert štajerske citre u Hotelu Goldener Adler (Concert of the Styrian zither at the Golden Adler Hotel). 6 December (163): 5.

[49] Paćuka, Lana. 2014. *Muzički život u Sarajevu u periodu Austro-Ugarske uprave (1878–1918)* [Musical life in Sarajevo in the period of the Austro-Hungarian rule]. PhD diss., University of Sarajevo. Unpublished ms., 84.

these areas. The public consumption of musical life also meant the emergence of music publishing, which was conditioned by the needs of the music market at that time. Music publishing referred to the appearance of bookstores, music stores, music salons, and the printing and publishing of musical compositions within Sarajevo's lithographic workshops and printers.[50] Supplying music lovers with all the necessary musical equipment – instruments, sheet music, gramophones and gramophone records, songbooks, music textbooks, and sheet music and tickets for art music concerts – the number of bookstores in Bosnia and Herzegovina grew day by day. The largest number of them, which, in addition to the general book business, also sold musical items, as well as those with a narrowly profiled activity only for working with musical supplies usually adorned the main streets of the city with the aim of attracting a respectable, bourgeois clientele. In a series of instrument shops and musical stores, of which about 30 were noted in Sarajevo, a few of them included instruments such as the zither in their offer. They were mostly renowned stores that recorded continuous, long-term work in yearbooks and reports such as *Bosnischer Bote*[51]. Among the first stores that began to sell zithers was the Sarajevo branch of the Teresa Kovačić store located in Franz Josef Street no. 64. In addition to violins, mandolins, guitars, accordions, and tambourines, the shop also specialized in the sale of zithers, and data on its successful operation can be found in the period from 1889 to 1911.[52]

[50] Ibid., 84–88.

[51] Information about music stores was published by the yearbook *Bosnischer Bote* most often in the section "Handel-und Gewerbetreibende der Hauptstadt Sarajevo".

[52] *Bosnicher Bote*, "Handel-und Gewerbetreibende der Hauptstadt Sarajevo", IV (1900), 257.

Figure 10: Music stores of Tereza Kovačić[53]

The prestigious Sisak tambura factory J. Stjepušin, stationed in Sarajevo, whose work was mentioned by sources in the period from 1900, was also distinguished by its continuous offer of rich instruments, which included zithers.[54] Also, an equally tempting offer of instruments was made by the respectable shop of Josef Wurm, located in the central part of Sarajevo on Ćumurija street, which during its many years of operation, which ended with the end of the First World War, regularly offered zithers in its assortment.[55]

It is interesting that the zither could be bought in shops even after Austria–Hungary left the territories of Bosnia and Herzegovina, that is, after Bosnia and Herzegovina became part of the Kingdom of Serbs, Croats, and Slovenes. The *Jugoslovenski list* thus provided information

[53] *Bosnicher Bote*, "Handel-und Gewerbetreibende der Hauptstadt Sarajevo", III (1899), 214.

[54] *Sarajevski list*, " J. Stjepušin – Prva sisačka tvornica tambura (Oglas)", 19 March 1910 (no. 70), 6.

[55] *Sarajevoer Tagblatt*, “Josef Wurm”, 16 October 1908 (no. 115), 11.

on shops and sellers of instruments such as Stevan Steić, who was also qualified to repair various instruments.[56]

Figure 11: Music stores of Josef Wurm.[57]

The continuous supply of zithers noted in Bosnia and Herzegovina from 1899 until 1929 can be considered a sign of positive demand and thus of consumption within civil social circles. It can also be inferred that the main consumers of the instrument were of immigrant origin, while evidence of practice within the local community is scarce. And yet, rare sources from the period between the two world wars provide information that playing the zither was also taught in schools attended by Bosnian children.[58] The given information opens up the possibility of a broader view of the presence of this instrument in the musical life of Bosnia and Herzegovina, whose path starts from the concert podium marked by foreign artists, continuing to music stores and immigrant musicians and possibly the local population.

CONCLUSION

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[56] *Jugoslavenski list*, „Prodaja“, 3 April 1929 (no. 77), 8.

[57] Ibidem

[58] In the text "From St. Joseph's Institute“, it is stated that "In the institute there is a fun center, an elementary school, a commercial school and a prep school ... In addition, the youth are taught foreign languages, piano, violin, zither." *Jugoslavenski list*, „Iz Zavoda sv. Josipa“, 26 August 1927 (no. 193), 4.

During the Ottoman rule (1463–1878), different types of zithers were used in Bosnia and Herzegovina. Written sources testify that they were most often used by foreign musicians. It can be assumed that they were Roma musicians who came from other parts of the Ottoman Empire. Only one text mentions that these instruments were played during wedding customs in Herzegovina.

During the Austro-Hungarian administration, zithers could often be heard in Bosnian coffeehouses. Written sources testify that they were mainly used by foreign musicians or those who settled in Sarajevo from other countries that were part of the monarchy. Although these instruments were available for learning to the population of Bosnia and Herzegovina, they were never accepted. Bosnian ensembles that played in coffeehouses used various instruments that arrived in the period from the 15th to the 20th century through Eastern and Western cultures. This primarily applies to the violin, accordion, and clarinet. It is very difficult to determine the reason why zithers, unlike those previously mentioned, did not find their place in the folk music of Bosnia and Herzegovina. It is interesting to mention that after 1914, zithers were hardly mentioned in Bosnian coffeehouses. Their use was noted exclusively at art music concerts organized by foreign musicians.

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SECTION 4

EXAMPLES FROM THE EAST

A Perspective on the Modernization of the Chinese *Zheng* Through Reflections on My Study of Contemporary *Koto* Music

Mei Han [韩梅][1]

Abstract

The Chinese *zheng* and Japanese *koto* are two members of the East Asian half-tube plucked long zither family, sharing a common feature: individual movable bridges. The *koto* was brought to Japan from China around the 8th century CE. The two instruments have since developed their own unique music and tradition throughout a history of over 1500 hundred years.

Recent history records these two Asian zithers on similar developmental paths of Westernization and modernization. However, the different sociopolitical contexts of Western colonization of China versus colonial influences in Japan between the late 19th century and early 20th century created divergent methods of contemporization and performance aesthetics.

The impetus of the paper comes from my 2001 research trip to Japan to study contemporary *koto*, which centered around lessons with the leading contemporary *koto* performer Kazue Sawai. Also relevant are my conversations with Minoru Miki, Japan's primary composer who composed extensively for 20-string modern *koto*. My observation of contemporary *koto* music provided a new perspective of the *zheng*, musical aesthetics, and performance practice unique to East Asian long zithers. In this paper, I

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Mei Han [韩梅]. 2023. A Perspective on The Modernization of The Chinese Zheng Through Reflections on My Study of Contemporary Koto Music. *Musical Bows and Zithers along the Great Silk Road*. Edited by Xiao Mei and Gisa Jähnichen. Berlin: Logos, 167-180.

examine zheng's modernization as it is informed by the parallel developments of the *koto*. By using a comparative approach, I focus on aspects of *zheng*'s compositional ideology, pedagogy, and organological development. I question whether, while looking to achieve contemporary relevance and an individual artistic voice on the *zheng*, it is possible to preserve the essence of the *zheng*'s tradition and retain the fundamental aesthetics unique to the Asian long zither?

KEYWORDS

Zheng, Koto, China and Japan, Contemporisation, Perspective of modernization

INTRODUCTION

Musical instruments as artifacts are arguably one of the most identifiable markers of cultural identity. Originating from the Chinese *zheng*, the Japanese *koto*, the Vietnamese dan tranh, and the Korean gayageum are prominent members of the East Asian half-tube plucked long-zither family, which share a common morphology. Through the ongoing personal hands-on study of these instruments, I strive to understand the commonalities and idiosyncrasies of each as a method to inform my approach to the zheng as both a performer and researcher.

In this paper, I present a comparative perspective of the modernization of the *zheng*. I draw upon my study of *koto* with master Sawai Kazue 沢井一恵 (born 1942) in 2001. Through this perspective, I argue that creating instrument-centric music derived from the utilization of the cultural aesthetics underlying the morphology of the *zheng* is a viable method to maintain cultural distinctiveness while achieving contemporary relevance and extending an individual artistic voice on the instrument.

MORPHOLOGY AND EARLY HISTORY OF THE *ZHENG* AND *KOTO*

Both the *zheng* and *koto* share a common morphological feature, a rectangular wooden soundbox over which multiple strings are stretched horizontally to each travel over one of the centrally located movable bridges. Plucking strings on the right side of the bridges, a performer can manipulate the sound by pressing and releasing the string on the left. Although styles vary from tradition to tradition, this ability to craft the sound with the left hand is the defining characteristic shared throughout the East Asian long zither family.

The potential range of tonal complexity and subtle expression created by sculpting the sound with left-hand techniques is vast.

The history of the *zheng* can be traced back over 2000 years. The earliest written description of the instrument was found in the *Shiji* (Records of the Grand Historian, 91 BCE).[2] Both organological studies and Chinese etymological references suggested that the *zheng* was most probably developed from a five-string half-tube bamboo zither.[3] Throughout the Chinese imperial era (221 BCE1911), the number of the strings on the *zheng* was increased to 12, 13, 14, 15, and 16, with the 13-string *zheng* being predominantly used as an instrument for court entertainment.

The *koto*, historically referred to as sō, was developed from a Chinese *zheng* introduced to Japan in the 8th century as part of an imperial court orchestra.[4] The resulting 13-string *koto* did not come into popular use until the 17th century.[5] In both cultures, classical female musicians became symbols of beauty in poetry, literature, and visual art. This idealized beauty is found in the construction of the instrument, the sound it produces, and the aesthetics that surround the music.

Traditional solo *zheng* repertoires were derived from compositions created in the 18th and 19th centuries. These were originally played on the *zheng* in small string ensembles that accompanied local operas and narrative singing genres. The *zheng* in this period had 13, 15, or 16 silk or highly flexible steel strings, which often imitated the vocalists, through their use of moving tones or pitches in motion. Although these works were melodically linear, their sophistication lay in the left-hand sculpting of the plucked notes, which created a wide range of minute shifts of pitch and time to elicit deep emotions in the listeners. The aesthetics produced by the left-hand technique is described as *yun* 韻, a term with over 100 connotations in the Chinese language that are associated with prosody, poetry, refinement, and beauty. *Yun*

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2 "[People in the Qin State] beat clay drums [and] earthen jars, play the zheng, [and] slap their thighs to accompany songs. This is the true music of the Qin." Sima Qian [司馬遷] c. 91 BCE/1959. 李斯列傳 Li Si Liezhuan [Historical Biography of Li Si]. 史記 Shiji [Records of the Grand Historian]. Beijing: Zhonghua Shuju, 87.

3 Liu Xi [劉熙]. c. 200/1939. 釋名 *Shiming* [Explanation of Chinese Characters]. *Congshu Jicheng.* Edited by Wang Yunwu 王雲五. Beijing: Shangwu Yinshuguan [Commercial Press], 106; Xu Shen [許慎]. c. 121/1966. 說文解字 *Shuowen Jiezi* [Explanation of Graphs and Analysis of Characters]. Hong Kong: Feng Siyu; Sachs, Curt. 1940. *The History of Musical Instruments*. London: W.W. Norton.

4 Miki Minoru [三木稔]. 2000. 日本樂器法 *Riben Yueqi Fa* [The Way of Japanese Musical Instruments]. Beijing: Renmin Yinyue Chuban She [People's Music Publishing House], 130.

5 Malm, William P. (1978), *Japanese Music and Musical Instruments*. Rutland, Vermont, and Tokyo, Japan: Charles E. Tuttle Company, 169.

is the essence of Han Chinese music, and this instrument-centric approach, rising from the *zheng*'s morphology, is arguably the most recognizable marker of *zheng*'s cultural identity.[6]

20TH CENTURY CONTEMPORIZATION

Contemporary history has witnessed both the *zheng* and *koto* on parallel paths of modernization of instruments, composition, and performance techniques. While the impetus for the modernization of East Asian traditional music was initially fueled by the influence of Western culture brought by European colonizers in the late 19th century, the further modernization of the Chinese *zheng* and Japanese *koto* differs due to their social, political, and cultural contexts.

The waves of modernization of both the *zheng* and *koto* in the 20th century began with the comprehensive exposure to Western culture in the late 19th century and the implementation of Western educational models in the early 20th century. In both countries, there was a popular consensus that traditional music was underdeveloped in comparison with Western music. However, the modernization of the *koto* took a separate path, partially due to an ingrained cultural resistance to foreign influences in Japan. Musicologist Bonnie Wade explains: "Since the Meiji period, a rhetorical paradigm differentiating *wayo* (Japanese style) from *seiyo* (western style) has been deeply embedded in cultural expressions and thought."[7] This cultural boundary can even be found in the use of a separate script (*katakana*) for foreign words.[8] This delineation of *wayo* from *seiyo* served to maintain Japanese aesthetics on the *koto* through consecutive waves of western influenced modernization.

The modernization of the *koto* commenced earlier than the *zheng*. Miyagi Michio 宮城道雄 (1894–1956), a blind *koto* player who is commonly considered the pioneer of contemporary *koto* music, began composing new music for *koto* in the early 20th century. Miyagi adopted western compositional structures and harmonic principles; however, instead of imposing them on the instrument, such as playing the *koto* in a western manner, he integrated these western influences within the *koto*'s tradition, preserving the balance of *wayo*

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6 Yun is a complex and comprehensive concept in Chinese music. One cannot provide a clear explanation without a substantial amount of discussion, which is beyond this article's scope. A more detailed explanation of yun can be found in → Han Mei. 2013. The Emergence of the Chinese *Zheng*: Traditional Context, Contemporary Evolution, and Cultural Identity. Ph.D. dissertation, University of British Columbia. Unpublished ms., 67-76.

7 Wade, Bonnie C. 2005. *Music in Japan, Experiencing Music, Expressing Culture*. New York: Oxford University Press,138.

8 Ibidem

and *seiyo*. Miyagi created *koto* ensembles and invented the 17-string bass *koto* to enable a broader range of music and greater dynamic expression. Henry Johnson epitomized Miyagi's innovation as engaging directly with ideas from both Japanese and Western music and Japanizing Western ideas to suit existing Japanese instruments. "He was working from within his own culture to reach across other cultures."[9] In Japan, Miyagi's *koto*-centric approach to modernization has been recognized as a continuation of the tradition.

Modernization of the *zheng* began in the 1930s. At the time, there was a deeply rooted opinion in China that Western Music was modern and traditional music was backward. This grew from a series of revolts in the early 20th century against the old society and everything associated with it. Chinese instruments were touted as "crude and hard to learn,"[10] and [Chinese music] should be "eradicated,"[11] and "We have to choose between Chinese and Western music. We cannot have both".[12] In contrast with Japan, China did not have a safeguard maintaining the essential aesthetics of Chinese traditional music. The inference was that the way to "improve" Chinese music was to embrace Western models. As Chinese musicologist Han Kuo-huang [韓國鐄] observed: "In many cases, modernization was synonymous with Westernization. Musicians trained in Western style began to think and hear music in terms of Western intonation, harmony, tone color, range, and above all, standardization of musical instruments."[13]

Modernization resituated the *zheng* from a folk instrument to a concert instrument after the founding of the People's Republic of China in 1949, and this transformation was multifaceted. Traditional pieces whose structure

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[9] Johnson, Henry M. 2012. A Modernist Traditionalist: Miyagi Michio, Transculturalism, and the Making of a Music Tradition. *Rethinking Japanese Modernism*. Edited by Roy Starrs. Leiden and Boston: University of Otago, 255-257.

[10] Fei Shi [匪石]. 1903. 中國音樂改良說 Zhongguo Yinyue Gailiang Shuo [Discourse on Chinese Music Reform]. 中國近代音樂史料匯編 (1840-1919) Zhongguo Jindai Yinyue Shiliao Huibian (1840-1919) [Compilation of Materials of Contemporary Chinese Music (1840-1949)]. Edited by Zhang Jingwei [張靜蔚]. 1998. Beijing: Renmin Yinyue Chuban She.186-193.

[11] Chen Ho [陳洪] was quoted in a single paragraph from 1933, published in Guangzhou Music 1 (1). n.p. by Liu Ching-chih and Wu Ganbo, eds. [劉靖之, 吳贛伯]. 1994. 中國新音樂史論集-國樂思想 *Zhongguo Xin Yinyue Shi Lun Ji - Guoyue Sixiang* [History of the New Music in China - The Ideology of National Music]. Hong Kong: University of Hong Kong, 6.

[12] Quin Zhu as a composer was quoted in Liu Ching-chih and Wu Ganbo, eds. [劉靖之, 吳贛伯]. 1994. 中國新音樂史論集-國樂思想 *Zhongguo Xin Yinyue Shi Lun Ji - Guoyue Sixiang* [History of the New Music in China - The Ideology of National Music]. Hong Kong: University of Hong Kong. 7.

[13] Han Kuo-huang. 1979. The Modern Chinese Orchestra. *Asian Music*, *11*(1):1-43.

facilitated a wide range of variations were codified into standard scores; compositions depicting the lives of the working class were encouraged, and the construction of the *zheng* went through a period of "reform" to accommodate its use in the modern orchestra.[14]

New compositions for the *zheng* introduced a pianistic approach with the left hand joining the right hand to pluck. *Qing Fengnian* 慶豐年 (Celebrating the Harvest, 1955), one of the early contemporary compositions for solo *zheng*, demonstrates such an approach. The composer and *zheng* master Zhao Yuzhai 趙玉齊 (1923–1999) utilized the left hand to play chords on the right side of the bridges in conjunction with the melody played by the right hand. His innovation was praised, suggesting he "liberated his left hand to play melody and harmony simultaneously and enriched the life of this ancient instrument."[15] Later, Zhao Yuzhai reflected: "Why can't the *zheng* play chords like the piano to reinforce and support the harmony? The *zheng* has a wide pitch range, why can't it play long glissandi like the harp to enrich the colour of the music and to add atmosphere?... I believe by borrowing performance techniques from other instruments, the *zheng* will increase its ability to express; it will increase the range of its dynamics, therefore, gaining the flavour of the current time… [In composing *Celebrating the Harvest*], I wanted to pay attention to absorb and invent new techniques, in order to meet the demands of new content and to make the music more visual."[16]

The pianistic approach was further embraced by subsequent generations of *zheng* performers and composers who continued to develop performance techniques and compositional textures primarily influenced by Western classical music. This new style of *zheng* music was a marked shift from traditional vocal-like monophonic textures (聲腔化) to that of instrument-based homophonic and/or polyphonic music (器樂化). Many new compositions pursued faster passages and greater volume to express grandeur or to showcase virtuosity. This significantly diminished the use of a primary

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[14] The first Forum on Instrument Reforms was held in October 1954. Organized by The Chinese Music Research Institute, The Chinese National Musician's Association and the Music Research Institute of the Central Conservatory of Music, over fifty instrument designers and makers attended the meeting, and over seventy newly designed or reformed instruments were introduced. Zhongyang Yinyue Xueyuan [中央音樂學院]. 1956. 第一次樂器改革座談會概況 *Di Yici Yueqi Gaige Zuotanhui Gaikuang* [Summary of the First Forum on Musical Instrument Reforms], Unpublished ms.

[15] Li Ling [李凌]. 1956. 古箏演奏的革新者 GuZheng Yanzou de Gexin Zhe [An Innovative Zheng Performer] *People's Daily*, 10th August: 8.

[16] Zhao Yuzhai [赵玉斋]. 1984. 談《慶豐年》的創作 Tan 'Qing Fengnian' de Chuangzuo, [A Discussion on Composing 'Celebrating the Harvest'], *Xinghai Yinyue Xueyuan Xuebao*, Z1:62-67.

aesthetic in *zheng* music, that of using moving tones to create *yun*, the poetic core of the *zheng* tradition.

The innovations in composition and performance demanded changes to the instrument to extend the pitch range, increase volume, and facilitate faster picking techniques. To meet this need, in 1960, Xu Zhengao 徐振高 (1933–2019) of the Shanghai Musical Instrument Factory created the 21-string S-shaped *zheng*, in consultation with Wang Xunzhi 王巽之 (1899–1972), the *zheng* instructor at the Shanghai Conservatory of Music. The addition of five more strings added a lower octave to the *zheng*. These new strings necessitated a longer instrument to enhance the bass register and an s-shaped nut (*shankou*) to replace the older straight shankou. This curved shankou was adapted from the orchestral harp to maintain an even string tension throughout (Figure 1). Another innovation borrowed from the harp was to replace the older wooden tuning pegs, usually placed on the top of the soundboard, with metal pegs on the side at one end to accommodate the increased string tension and facilitate accurate tuning (Figure 2).

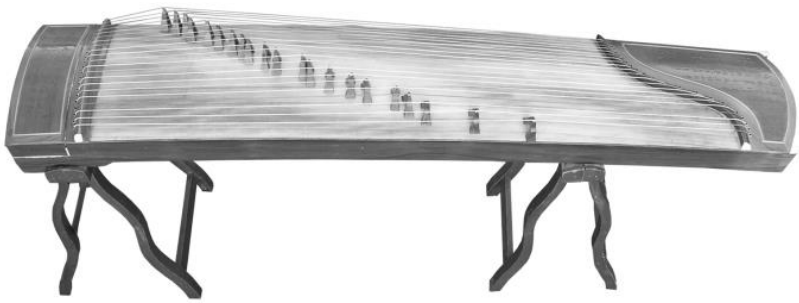

Figure 1: 21-string s-shape *zheng*. Photo by the author.

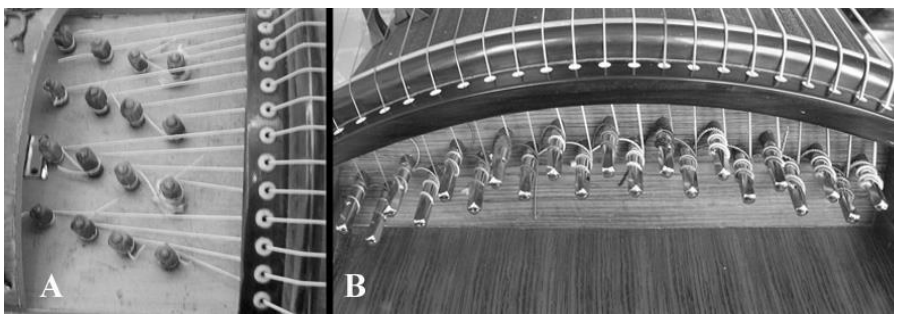

Figure 2: Comparison of *zheng* tuning pegs (A: wooden pegs; B: metal pegs). Photographies by the author.

The aspiration for an increased volume and speed fostered the need for a new type of *zheng* string that was stronger, louder, and fuller sound and could be tuned to a much higher tension. The traditional silk strings were considered too quiet with a shallow tone, hard to keep in tune, and easily broken. The traditional steel strings, known for their subtle pitch manipulations and long sustained lingering tones, had a somewhat noisy attack when plucked and did not stay in tune when struck hard in modern fast and forceful passages. Thus,

new strings were developed to be used on the S-shaped *zheng*, which are still in use today. They have metal cores covered by a layer of silk and wound with nylon. Although they are harder to depress, do not have the sustain of metal strings, nor retain the complex tone of silk, they can easily accommodate the new performance techniques. The 21-string *zheng* with nylon strings was a new, versatile modern instrument with a larger soundbox, thicker strings at higher tensions, increased volume, and a substantially lower bass register, which became the standard *zheng* since the 1960s. The 13- and 16-string *zheng*s still exist but are far less common.

The development of the modern Chinese orchestra, comprised primarily of Chinese instruments, prompted the development of key-changeable *zheng* capable of modulation. From the 1960s to the early 70s, experimental pentatonic and diatonic *zheng*s ranging from 21 to 44 strings were built with a variety of either hand- (Figure 3) or foot-controlled (Figures 4 and 5) mechanisms to selectively change string pitch. In 1978, He Baoquan, a *Zheng* instructor at the Shanghai Conservatory of Music, designed a 49-string chromatic key-changeable *zheng* named the *Butterfly* 蝶式 *zheng* due to its shape (Figure 6). I performed on a key-changeable *zheng* (see Figure 3), and my experience was that, as the mechanics were heavy and problematic, often putting the instrument out of tune. The 21-string *zheng* has become the standard instrument, retaining the basic morphology of its past.

Figure 3. 21-string hand-controlled key-changeable *zheng*. Photo by the author.

Figure 4: 21-string pentatonic pedal key-changeable *zheng*. Photo by courtesy of Liu Dongsheng.[17]

[17] Liu Dongsheng 劉東升 (1992), *Zhongguo Yueqi Tujian* [Pictorial Handbook of Chinese Musical Instruments] 中國樂器圖鑒, Jinan: Shandong Jiaoyu Chuban She 山東教育出版社, 206.

Figure 5: 36-string diatonic pedal key-changeable *zheng*. Photo by courtesy of Liu Dongsheng.[18]

Figure 6: Butterfly zheng. Photo by courtesy of Liu Dongsheng.[19]

Modernization of the *koto* continued in Japan after Miyagi. Koto performers and composers were met with similar challenges as their Chinese counterparts in creating contemporary music on the *koto*. According to *koto* performer Nosaka Keiko 野坂恵子 (1938–2019), the pitch range of the 13-string *koto* was too limiting, restricted by the pentatonic scale, and not able to modulate (1979).[20] In the late 1960s, with the aid of composer Miki Minoru 三木稔

[18] Liu Dongsheng [劉東升]. 1992. 中國樂器圖鑒 *Zhongguo Yueqi Tujian* [Pictorial Handbook of Chinese Musical Instruments]. Jinan: Shandong Jiaoyu Chuban She [Shandong Education Press], 206.

[19] Ibidem 208.

[20] Keiko Nosaka wrote: "Several discussions between the two regarding the limitations of the traditional *koto* resulted in 1968 in the decision to devise a new *koto.* The most important limitations, i.e., the awkwardness involved in modulation, the restricted range, and the difficulty of accommodating scales of more than five tones, could be solved simply by adding a few more strings. It was felt that the number of strings could be expanded to twenty without altering the basic nature of the *koto*." Keiko Nosaka. 1979. Music for 20-String Koto–Composed by Minoro Miki, Performed by Tokyo: Camerata, CMT-1015-8.

(1930–2011), Nosaka created a 20-string *Koto*, which soon grew to 21 and then later 25 strings. Although both the 17- and 20-string *koto*s were created from the original 13-string, they did not replace it; instead, they were complementary instruments used for new compositions.[21]

Miki composed numerous works for solo *Koto* of all ranges by using innovative tunings, gestures, and tone colors. The synthesis of Japanese and Western music traditions in Miki's *Koto* compositions presented a new vista. In 1983, as a member of Miki's chamber ensemble Pro Musica Nipponia, Nosaka performed Miki's *Greening*, one of the representative compositions for the 20-string *Koto*, in concert at the Central Conservatory of Music in Beijing. Miki's cross-cultural approach, interwoven with unusual tunings, melodic complexity, challenging rhythms, and innovative performance techniques, produced a shockwave in China. Li Meng, now a professor of *zheng* performance at the Central Conservatory who was an undergraduate student at the Conservatory at the time, recalled attending the Pro Musica Nipponia's concert: "I was shocked by Miki's work. We must admit that Miki and the music he brought to China has had a huge influence on our current state of composition [for the *zheng*]."[22] A collection of Miki's *koto* works was published in China and became popular among *zheng* performers.

In the last decades of the 20th century, the scope and pace of adopting pianistic technical proficiency further accelerated in *zheng* performance. Compositions, primarily written by professional composers, opened new horizons and prospects for the instrument and further challenged *zheng* performers to technical complexity and speed. This inclination for technical virtuosity sometimes was at the cost of the music. Miki once commented on two *Zheng* players' performance of *Greening*: "I think that not only [did they play] too fast, they also needed time to approach the piece with the natural energy and magnanimous manner that the piece required."[23] Well-known *Zheng* performer and educator Qiu Ji [邱霽] remarked: "Many *zheng* performers put technique, or more accurately speed, on the highest level, and often they lack mastery of tone colours, styles, and have insufficient understanding of the

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Accessible via: https://organicmusic.jp/products/keiko-nosaka-minoru-miki-music-for-20-strings-koto, last accessed 4th July, 2023.

[21] Miki Minoru [三木稔]. 2000. 日本樂器法 Riben Yueqi Fa [The Way of Japanese Musical Instruments]. Beijing: Renmin Yinyue Chuban She [People's Music Publishing House].

[22] Han Mei. 2013. The Emergence of the Chinese Zheng: Traditional Context, Contemporary Evolution, and Cultural Identity. Ph.D. dissertation, University of British Columbia. Unpublished ms., 206.

[23] Miki Minoru. 2002. 聽 "龍音杯"中國民族樂器 (古箏)國際比賽 Ting 'Longyin Bei' Zhongguo Minzu Yueqi (GuZheng) Guoji Bisai [Attending the 'Dragon Sound Cap' International Competition for Chinese National Instruments (GuZheng)]. *Renmin Yinyue* [Folk Music], 4: 27-29.

depth of music…".[24] Some even began to question whether the construction of the left side of the instrument was a waste since the players could only make sound on the right side.[25] With the adoption of the pianistic approach, I felt something had gone missing in *zheng* music, something essentially Chinese.

SAWAI KAZUE

My explorations of contemporary *koto* music began in earnest in the late 1990s, from recordings of contemporary Japanese music. I was particularly attracted by the works of *koto* master Sawai Kazue (b. 1942), who is known internationally as the leading contemporary *koto* performer. Sawai's performances were dynamic and unconventional. Yet I felt that, no matter how contemporary her sound was, it still expressed the weight of her tradition. In 2001, I traveled to Tokyo to study with Sawai for a short period. I took intensive lessons with her, which overlapped with conversations about the tradition and the contemporization of our respective instruments.

Sawai performs on both the 13-string and 17-string bass *koto* with a wide repertoire that ranges from traditional Japanese to avant-garde works, including arrangements of John Cage's works for prepared piano. She is also a *koto* composer and improviser. Sawai started by teaching me a traditional piece on the 13-string *koto* before going on to contemporary works. She explained that studying traditional music laid the foundation for contemporary music in her school, a further example of the Japanese *wayo* and *seiyo*.

What struck me most was the level of emotional and physical commitment that Sawai engaged when she plucked the *koto*, and that commitment unpretentiously transformed into a grounded, forceful, and yet still elegant sound. There was an efficiency of expression in her performance that applied just the right amount of nuance without any unnecessary ornamentation. I sensed a continuity in her playing both traditional and contemporary styles, playing with a sense of gravity and intensity and an emphasis on fully expressing each note. When we discussed about this, she said: "Japanese like to make things hard. The *koto* does not give away its sound easily. You must

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[24] Qiu Ji [邱霽] 2004. 論箏技法的分類及其演變 Lun Zheng Jifa de Fenlei Jiqi Yanbian [A Discussion on Categorization of Zheng's Technique and their Changes]. *Zhongguo Yinyue*. 4:215-24, 230.

[25] Li Han [李].2000. 談古箏演奏技法的創新與發展方向 Tan gǔzhēng yǎnzòu jìfǎ de chuàngxīn yǔ fāzhǎn fāngxiàng [Discourse on the Direction of Innovation of Zheng's Performance Techniques], *Journal of the Central Conservatory of Music*, *4*:58-60.

dig deep and grab the sound out."[26] As a *koto* performer, Sawai's approach to modernizing *koto* music derives from a deep sense of the instrument's performance tradition. While her innovative works bring new life to the *koto*, they create a strong sense of connection between the past and the present. Although the *zheng* has a different acoustic and performance tenet, her deep sense of valuing the past to inform the present resonated deeply in me. My time with Sawai reinforced my appreciation of the traditional aesthetics of the *zheng*, the importance of the nuances created by the left hand, and a further exploration of moving tones on contemporary *zheng* music.

CONCLUSION

Music changes within itself and in interaction with internal and external forces. Thus, the identity of a genre, or an instrument, is constantly reconstructed and redefined. How Sawai describes the *koto* is exactly how I feel about the *zheng*: "It is so versatile, so adaptable - there is still so much to discover about it, it isn't time to put it away yet. The *koto* is just coming into its own."[27] The *zheng*'s new paradigm encompasses unprecedented popularity nationally and internationally and an abundance of opportunities to bring its past and current development together to create a broader and richer future.

The morphology of the *Zheng* is an embodiment of the balance – to generate sound on the right side of the bridges and to refine it on the left. While looking to achieve contemporary relevance, retaining and fully utilizing the instrument's potential is integral. In addition to the current path of *zheng* development, I hope the performers explore the powerful expression in the left-hand technique to discover the potential of traditional *yun* and integrate it into innovation. I believe that through *yun*, we can retain the essence of traditional Chinese music, the continuum of Chinese aesthetics, and cultural identity while moving into the future of *zheng* music.

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[26] Han Mei. 2013. *The Emergence of the Chinese Zheng: Traditional Context, Contemporary Evolution, and Cultural Identity*. Ph.D. dissertation, University of British Columbia. Unpublished ms.: 225.

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REMARK

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Sounding Silk: The *Koto*, Heritagization and Zithers along Japan's Maritime Silk Road

Henry Johnson[1]

Abstract

The heritagization of one of Japan's traditional long zithers, the *koto* 箏, has its roots in Japanese court music (*gagaku* 雅楽). A hybrid genre comprising an assortment of different styles of music and dance, *gagaku* had culturally eclectic origins, including Japanese, Chinese and Korean connections. This paper explores the maritime sphere of the Silk Road in connection with the *koto*, discussing the instrument's history in Japan and its heritagization over the past 1300 years. Focusing on the *koto*'s form and visual culture, the study explores the instrument's cultural associations as markers that have helped consolidate its sonic heritage. In the discussion, the notion of heritagization is applied in two main ways. First, the *koto* is studied in terms of its history in Japan and the ways it has maintained an overarching and recognized physicality in comparison to its main Chinese counterpart (the *gǔzhēng* 古筝), while simultaneously being transformed in many ways. Second, the *koto* is part of a discourse on the Silk Road that reinforces the instrument's heritagization, a study of which helps reveal cultural elements and practices that connect sound to place through music and material culture.

Keywords

Koto, *Gǔzhēng*, Japan, Heritagization, Silk Road

Introduction

The heritagization of one of Japan's traditional long zithers, the *koto* 箏.琴 (Figure 1), has its roots in Japanese court music, known as *gagaku* 雅楽. A hybrid genre comprising an assortment of different styles of music and dance, *gagaku* has culturally eclectic origins, including Japanese, Chinese and

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Korean connections. This paper explores the maritime sphere of the Silk Road in connection with the *koto*, discussing the instrument's history in Japan and its heritagization over the past 1300 years. Focusing on the *koto*'s form and visual culture, the study explores the instrument's cultural associations as markers that have helped consolidate its sonic heritage. In the discussion, the notion of heritagization is applied in two main ways. First, the *koto* is studied in terms of its history in Japan and the ways it has maintained an overarching and recognized physical form in comparison to its main Chinese counterpart, the *gǔzhēng* 古箏 (Figure 2), while simultaneously being transformed in many intricate ways and across diverse cultural spheres. Second, the *koto* is part of a discourse on the Silk Road that reinforces the instrument's heritagization, a study of which helps reveal cultural elements and practices that connect sound to place through music and material culture.

Figure 1: *Koto* performers. Association for Asian Studies conference, Kyoto, 2016. Photo by author.

Following an introductory section that contextualizes musical instruments along the Silk Road, this paper focuses on the *koto* from its use in *gagaku* to more recent changes in instrument form that broke from tradition on the one hand yet created new traditions on the other. In these settings, and applying

an ethno-organological approach to the study,[2] the *koto* is comprehended as Japanese cultural heritage, an instrument with an acknowledged Chinese history, seemingly suspended in time and space, and representative of the roots of many later traditions. Through such an approach, "musical instruments are viewed as objects existing at the intersection of material, social and cultural worlds, as socially and culturally constructed, in metaphor and meaning, industry and commerce, and as active in the shaping of social and cultural life".[3]

Figure 2: *Gǔzhēng* performer. (*Koto* in background.) Dunedin Public Art Gallery, 2019. Photo by author.

Musical Instruments and Maritime Silk Road

The study of musical instruments along the Silk Road is a topic that has attracted attention from UNESCO (United Nations Educational, Scientific and

[2] Johnson, Henry. 2004. Introduction. Special Issue on Musical Instruments, Material Culture, and Meaning: Toward an Ethno-organology. *Journal of Chinese Ritual, Theater and Folklore* 144: 7–37.

[3] Dawe, Kevin. 2001. People, Objects, Meaning: Recent Work on The Study and Collection of Musical Instruments. *The Galpin Society Journal* 54: 220.

Cultural Organization) in connection with its Silk Roads Program.[4] Including a variety of instrument types, "[o]ver time, bells, chimes and drums were replaced with stringed instruments that could be more easily transported and as such, a typical 7th century CE relief depicts musicians playing angular harps, lutes, zithers, mouth organs and flutes".[5] It is with such string instruments that the *koto* can be seen as physically related to several other Asian zithers, with many other Japanese instruments also having a striking physical resemblance to similar instruments throughout Asia (e.g., the *shamisen* 三味線 [three-string lute] and the *shakuhachi* 尺八 [vertical flute]).

While the Maritime Silk Road is known for connecting the cultures of southern China with South Asia, East Africa and the Mediterranean along the South China Sea Silk Route, the passage also went to the east from China where it connected with the cultures of the Ryūkyū Islands 琉球諸島 (the former Ryūkyū Kingdom 琉球國), the Korean Peninsula and the Japanese archipelago. Indeed, it is with these cultures that the localization of music and musical instruments is especially visible in the present day, where music material culture has been preserved in a recognized form, albeit with a degree of hybrid transformation. This is particularly evident with *gagaku*, which was adopted, localized and transformed in Japan by the Nara period (710–94) as part of a process of modelling the Japanese imperial system on its Chinese or Tang Dynasty (618–907) counterpart. Around this time, Japan appropriated

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4 UNESCO. 2023. Cultural Selection: The Exchange of Musical Instruments along the Silk Roads. Available at: https://en.unesco.org/silkroad/content/cultural-selection-exchange-musical-instruments-along-silk-roads, last accessed 4 July, 2023. Also, for example, Chang, Lulu Huang. 1994. Cross Cultural Musical Processes and Results: Music Along the Silk Route from Second Century BC to Tenth Century AD. Asian Culture Quarterly 22 (3): 34–40; Kishibe, Shigeo [岸辺成雄]. 1982. 古代シルクロードの音楽: 正倉院. 敦煌. 高麗をたどって *Kodai shiruku rōdo no ongaku: Shōsōin, Tonkō, Kōrai o tadotte* [Music of the Ancient Silk Road: Shōsōin, Dunhuang, Goryeo]. Tokyo: Kōdansha; Kishibe, Shigeo [岸辺成雄]. 1984. 天平のひびき: 正倉院の楽器 *Tenpyō no hibiki: Shōsōin no gakki* [Sounds of Tenpyō: Musical Instruments of the Shōsōin]. Tokyo: Ongaku no Tomosha; Kodai Oriento Hakubutsukan, ed. [古代オリエント博物館]. 2002. シルクロードの響き: ペルシア・敦煌・正倉院 *Shirukurōdo no hibiki: Perushia, Tonkō, Shōsōin* [Echoes of the Silk Road: Persia, Dunhuang, Shōsōin]. Tokyo: Yamakawa Shuppansha; Lieberman, Fredric. 1981. *Music of the Silk Route*. New York: Asia Society; Tsubouchi, Shigeo [坪内栄夫]. 2007. シルクロードと世界の楽器: 音楽文化の東西交流史 *Shirukurōdo to sekai no gakki: Ongaku bunka no tōzai kōryūshi* [The Silk Road and Musical Instruments of the World: History of East-West Exchanges in Music Culture]. Tokyo: Gendai Shokan.

5 UNESCO. 2023. Cultural Selection: The Exchange of Musical Instruments along the Silk Roads. Available at: https://en.unesco.org/silkroad/content/cultural-selection-exchange-musical-instruments-along-silk-roads, last accessed 4 July, 2023.

much music from China, as well as other cultural forms such as Chinese characters, town planning and many creative arts.

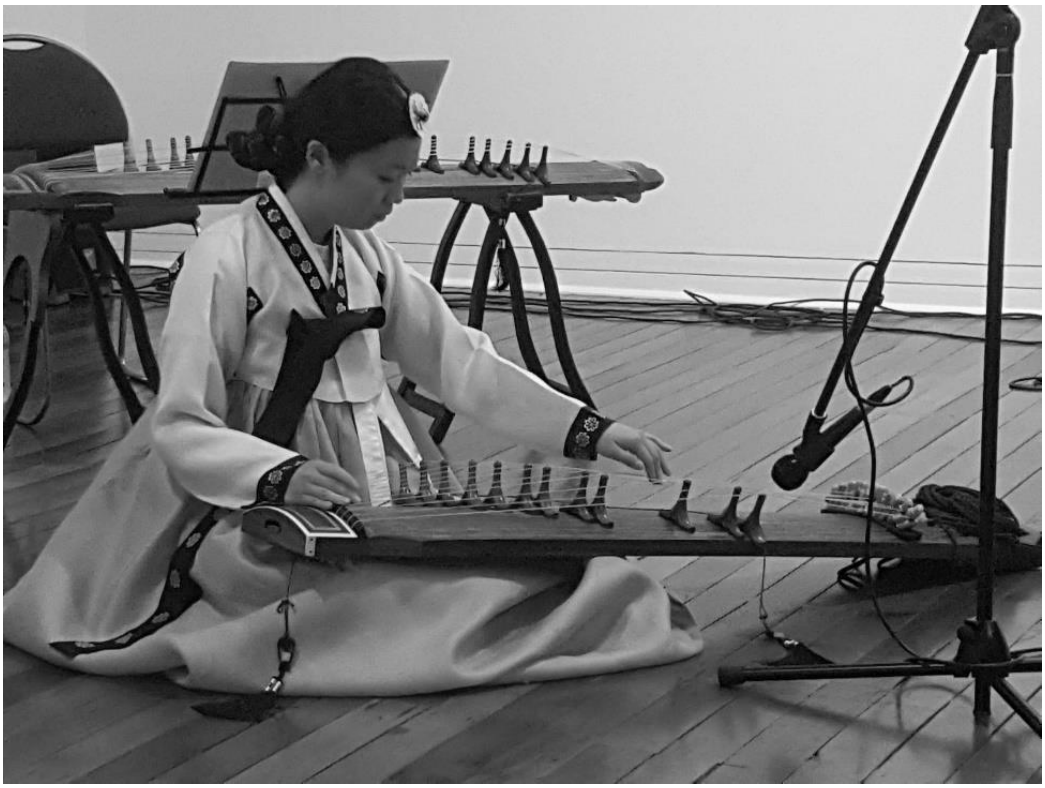

Figure 3. *Kayagum* performer. Dunedin Public Art Gallery, 2019. Photo by author.

With the Silk Road more broadly, music was "both portable and durable ... [and] imported instruments were often incorporated into existing musical traditions as they were exchanged along the Silk Roads".[6] Evidence of similarities of instruments along the Maritime Silk Road and other Chinese trading routes are found with a number of examples. For instance, the Japanese *koto* has remarkable structural similarities to the *gǔzhēng* 古筝 (China), *kayagum* 가야금, 伽倻琴 (Korea) (Figure 3) and *dàn tranh* 彈箏 (Vietnam); the Japanese *biwa* 琵琶 (lute) connects with the *pípá* 琵琶 (China); and there are many other examples of wind, string and percussion instruments with similar physical similarities. Such objects of music material culture may have had common ancestors, but through the processes of cultural transmission and localization they were adopted and adapted into particular cultures, and later became icons of tradition and heritage with a recognized history of cultural

[6] UNESCO. 2023. Cultural Selection: The Exchange of Musical Instruments along the Silk Roads. Available at: https://en.unesco.org/silkroad/content/cultural-selection-exchange-musical-instruments-along-silk-roads, last accessed 4 July, 2023.

transmission, yet at the same time prized for their role in creating local tradition.

GAGAKU AND HERITAGIZATION

Gagaku (literally "elegant music") is a refined style of Japanese music and dance with distinct Shintō 神道 (Japan's indigenous belief system; "the way of the gods") and imperial associations. It offers an important example of music and musical instrument heritagization.[7] The genre is found in a number of different combinations of instruments and dance styles, and is most closely associated with imperial court music and Shintō shrines (there are also Buddhist and more recent secular settings).

Some of Japan's main traditional musical instruments have their roots in *gagaku*, including the *koto* and *biwa*. There are also other instruments such as percussion and flutes that either have variants across Japan or have been recontextualized in other spheres of Japanese music making. For each of the instruments, the *gagaku* setting offers a point of origin (localization), one that may have its own hybrid formation, but also one that demonstrates authenticity in terms of social and cultural association distinct to Japan. For such instruments, form and function are preserved within parameters that recognize heritage, yet allow a degree of transformation. *Gagaku* has inherent signifiers of cultural origin. That is,

> the main division of its dance music (*bugaku* [舞楽]) shows a clear dichotomy between Chinese-derived music (*tōgaku* [唐楽]) and Korean-derived music (*komagaku* [高麗楽]). The most significant example concerning musical instruments is found with the *wagon* [和琴], a six-string zither whose Chinese characters mean literally Japanese zither. One may presume that because the *Koto* was transmitted to Japan from the Asian mainland with the *gagaku* court orchestra . . ., the indigenous zither acquired the name "Japanese zither" in order to classify it vis-à-vis the imported one (ie the *koto* [琴・箏], also called *sō-no-Koto* [箏の琴], *sō* [箏], and *jūsangen* [十三弦]).[8]

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[7] Suzuki, Seiko. 2016. Gagaku, Music of the Empire: Tanabe Hisao and Musical Heritage as National Identity. *Cipango - French Journal of Japanese Studies*. Accessible via: http://journals.openedition.org/cjs/1268; DOI:10.4000/cjs.1268, last accessed 4th July, 2023.

[8] Johnson, Henry. 1996. A Survey of Present-day Japanese Concepts and Classifications of Musical Instruments. *Musicology Australia 19*: 18.

THE *KOTO*: CHANGE AND TRADITION

The *koto* exists today with several instrument types, varying in form, function and meaning.[9] *Koto* are made with differing numbers of strings (e.g., 13, 17, 25, 30, 80); there are bass and soprano versions; and the size of the instrument varies not only in connection with its number of strings, but also depending on the intended context (e.g., smaller instruments that are made particularly for use in school education). With such a family of zithers, one can find *koto* – usually with a distinct name describing its form or function – in an array of performance settings, including *gagaku*, *jiuta sōkyoku* 地唄箏曲 (a style of chamber music) and popular music. However, even though the *koto*'s form has diversified, particularly from the 1920s when Miyagi Michio (1894–1956) expanded his compositional vision for the instrument,[10] the *koto* still exists with a primary form from which its variants have developed as a response to a changing cultural milieu.

WHAT IS THE *KOTO*'S TRADITIONAL FORM?

In its traditional form, the *koto* is by far usually recognized as a long zither. In Japan, the instrument is related historically to its form as found with the version of the instrument used in *gagaku*. In this performance setting, where the instrument is nowadays referred to as *gakusō* 楽箏 (*gagaku sō* [i.e., *koto*]), the main defining aspects of its form are its long zither shape, 13 strings, 2 fixed bridges, and 13 movable bridges placed under the strings. Further, with the instrument positioned on the floor, the player is likewise seated cross-legged on the floor and positioned facing the long sides of the instrument near to one of the fixed bridges.

HOW HAS THE *KOTO*'S TRADITIONAL FORM BEEN SIMULTANEOUSLY MAINTAINED AND TRANSFORMED?

The *gakusō* offers a material form of the *koto* that has a context of much cultural significance. Associated with the imperial system and Shintō, a belief at the heart of Japanese tradition, the *koto* in this setting is elevated in cultural standing and a marker of authentic instrument form, function and meaning.

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[9] Johnson, Henry. 2004. *The Koto: A Traditional Instrument in Contemporary Japan*. Amsterdam: Hotei Publishing.

[10] Johnson, Henry. 2012. A Modernist Traditionalist: Miyagi Michio, Transculturalism, and the Making of a Music Tradition. *Rethinking Japanese Modernism*. Edited by Roy Starrs. Leiden: Global Oriental, 246–269.

Having been maintained in this context for over 1300 years,[11] the *gakusō* is an emblem of tradition, a signifier of the imperial system, and a marker of a musical elite.

While *gagaku* itself it a hybrid genre, with historical influences from the Tang dynasty, Korea (from the Goguryeo Kingdom and referred to as Koma in Japanese), and Japan, as well as being formalized in Japan's period of nation building in the nineteenth century, it nowadays has recognized sonic, visual and social associations placing it at the core of the Japanese nation's sonic identity. Indeed, *gagaku* has invariably been "harnessed as a symbol of the national culture during each of the main chapters in Japan's modern history".[12] But while the *koto* has maintained an overall traditional form, such as that used in *gagaku*, the instrument has changed within certain parameters that have allowed it to maintain tradition on the one hand yet modernize on the other.

Such change has mostly been on the *koto* that became well known outside of *gagaku* and disseminated in everyday music over the past 400 hundred years. The changes include the use of synthetic strings rather than silk, which was a 20th-century innovation; the gradual reduction of the amount of inlay and lacquer work along the *koto*'s body (i.e., on the long sides and upper surface of each end); and the use of plastic instead of materials such as ivory, bone or mother-of-pearl for added decoration. There are also many differences amongst performance traditions with types of notations and performance practice. For example, vertical tablature, horizontal tablature and ornamental techniques.

CONCLUSION

In Japan, the *koto* represents an important link to the Silk Road, which is extended across sea and the Japanese islands as part of the eastern Maritime Silk Road. While the *koto*'s cultural associations and sonic heritage have maintained a recognized physical form for over 1300 years, the instrument has

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[11] Material evidence of the form of early *gakusō* is found in a number of Japanese museums and archives, including the Shōsōin 正倉院 (treasure house of the Nara period). See, for example, Hayashi, Kenzō. 1964. 正倉院楽器の研究 *Shōsōin gakki no kenkyū* [A study of the musical instruments of the Shōsōin]. Tokyo: Kazama Shobō.; Kishibe, *Tenpyō no hibiki*; Shōsōin, ed. (1967), *Shōsōin no gakki* 正倉院の楽器 [Music instruments of the Shōsōin], Tokyo: Nihon Keizai Shinbunsha; Shōsōin, ed. (1989), *Shōsōin hōmotsu* 正倉院の宝物 [Treasures of the Shōsōin], Tokyo: Asahi Shinbunsha.

[12] Suzuki Seiko. 2016. Gagaku, Music of the Empire: Tanabe Hisao and Musical Heritage as National Identity. *Cipango - French Journal of Japanese Studies*. Accessible via: http://journals.openedition.org/cjs/1268; DOI:10.4000/cjs.1268, last accessed 4th July, 2023.

simultaneously been transformed in many small and significant ways with various cultural traditions, social connections and musical practices. The *koto* has silk roots and routes, sounding the instrument's emblematic form through time and place. This instrument of Japanese musical heritage, therefore, connects music to cultural flows, old and new, through musical sound, material form and cultural meaning.

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Evolution of the Qin: From Musical Bow to *Guqin*

Long Fei [陇菲][1]

Abstract

The musical bow, the ancestor of the *Guqin*, evolved from the bow for hunting in remote antiquity, which was named *paoqin* later due to its gourd resonator. Influenced by the *zhudongqin,* it changed to be in a horizontal position gradually, named *zhu*, played by striking strings on different points. Afterward, it developed into another instrument, named *wokonghou*, consisting of a flat wooden sound box with strings stretching across it. It was best distinguished by the shared frets lower than strings. A performer plucked strings with fingers or a plectrum, selecting tones following the frets.

The shared frets intuitively displayed the isomorphic regularity of divisions of strings with different pitches. The musicians in the Jin-sui period, inspired by this, managed to transform the musical instrument, removing shared frets from it and placing studs (*hui*) at simple divisions of strings instead. Seven strings and 13 *hui* were established as the standard type of the later *Guqin*. The *hui*, as the sign of overtone pitches, preserves the natural measure of tones. The *Guqin* looks unsophisticated, with great wisdom lying under the plain appearance, which has resolved the contradiction between man-made tone systems and natural overtones so that it is able to apply freely a unified tone system composed of different methods of tone determination.

The *Guqin* with a long history of development is a perfect unification of civilization and the rules of nature.

Keywords

China, Musical bow, Paoqin, Wokonghou, Guqin

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Long Fei [陇菲]. 2023. Evolution of the Qin: From Musical Bow to Guqin. *Musical Bows and Zithers along the Great Silk Road*. Edited by Xiao Mei and Gisa Jähnichen. Berlin: Logos, 191-213.

PREFACE

Yan Fu introduced *Evolution and Ethics* by the Huxley[2] into China, translating it as *Evolution of Nature* (天演论). This paper was titled *Evolution of the Qin* (琴演论, compare with the remarks at the end) and related to the pattern of the title of this section.

The musical instrument known as *Guqin* today was called the *qin* or the *seven-stringed qin* originally. In the early 20th century, it was termed *Guqin* to distinguish from other *qin*, the prefix *gu* meaning "ancient" in Chinese. Nevertheless, that seems to make its complicated context of evolution more confusing.

Christians learned from the book Genesis of the Bible[3] that God finished the heavens, the earth, and all their multitude in the space of 6 days. "And on the seventh day God finished the work he had done, and he rested on the seventh day from all work he had done."

Similarly, the *Guqin* also had a Genesis. Fuxi and Shennong in the myth were credited with the invention of the five-stringed instrument, and the contribution of other two strings was credited to the kings of the Zhou dynasty.[4] That is considered the whole history of the *Guqin* to the mind of some people. But some doubt has been cast upon the authenticity of this story for years. The convincing evidence of the relevant cultural relics has shown its obvious changes in form and structure; still, its history of evolution is a controversial matter.

According to Darwin's theory in *Origin of Species*[5], everything in the world is not accomplished at one kick and must undergo a long and gradual development. But it seems that not everyone accepts it; even some consider it heresy to suggest such a notion. However, it is an enlightening point of view.

I have published a series of writings since the 1980s,[2] combing through the context of the development of the *Guqin*. In my experience, in order to study a specific object carefully and try to discover new facts about it, an effective method is to investigate it in an integrated and systematic way from the aspects

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[2] Huxley, T.H. and Julian Huxley. 1947. Evolution and Ethics 1893-1943. London: Pilot Press. Translated much later into Chinese.

[3] Holy Bible. N.d. Genesis. Accessible via: https://www.vatican.va/archive/bible/genesis/documents/bible_genesis_en.html, last accessed 6 July, 2023.

[4] Lau, Frederick. 2007. Music in China. New York: Oxford University Press, 121–123.

[5] Darwin, Charles Robert. 2003. *The Origin of Species*: 150th Anniversary Edition. Kolkata: Signet.

as follows: how it happens, what it changes in evolution, and the similarities and differences between it and others of the same kind or different kinds.[6]

This article gives a general overview of the evolution history of the *Guqin* based on my previous discussions.

THE *QIN* ORIGINATED FROM THE MUSICAL BOW

Morgan said in *Ancient Society*:

> The bow and arrow, as a great invention in the late ignorance stage, brought the initial critical weapon to hunting. We take it as a sign of the beginning of the high-level society of that stage. The bow and arrow certainly pushed the society forward greatly. It had an influence on the stage of ignorance just as iron swords did on the that of barbarism and the firearm on that of civilization.[7]

A bowstring constrains its bow, and in turn, the resilient bow controls the string. Hunters knew that when an arrow was shot from a bow, the string would be vibrating and a humming could be heard simultaneously. Toying with it idly, they gradually realized that different strings, when vibrating, produced different frequencies and the degree of highness or lowness of a sound was governed by the rate of vibrations producing it. Finally, a hunting bow became a musical bow, used for the earliest sorcery music. It has disappeared from Chinese mainland but has been found in Taiwan, China.

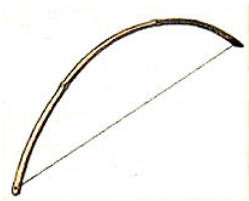

Figure 1: A musical bow found in Taiwan, Malin, Taitung, re-printed with permission.[8]

Some information about it could be traced to Chinese ancient characters such as 弓, 弦 and 弯. The left portions of them symbolize a bow, and the right portions look like a string in a static state or in changing tension respectively.

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6 Long Fei [陇菲]. 1981. *The Musical Instruments in the Brick Pictures in the Wei-jin Tombs, Jiayuguan*. Lanzhou: Gansu People's Press.

7 Morgan, Thomas Hunt. 1977. *Ancient Society*. Beijing, Commercial Press, 20.

8 Website of the collection of the MAA [Museum of Archeology and Anthropology]. Accessible via: https://collections.maa.cam.ac.uk/objects/#, last accessed 6th July, 2023.

The first one 引 is pronounced *yin*, meaning drawing a bow; the second one 弘 is pronounced *hong*, like the noise of a bow being drawn; and the third one 弓 is pronounced *wu*, sounding like an arrow's speeding from a bow. The interpretations above come from *Shuowen Jiezi.*[9]

Ancient hunters accidentally found that the mouth could control pitches of the vibrating string and the gourd tied to a bow could do the same. Then the *paoqin* came into being and spread all over the world.

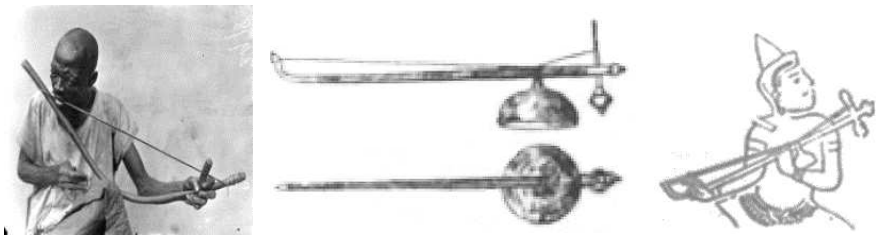

Figure 2 (left): African musical bow using the mouth as a control tool for the pitch. Photograph by courtesy of the Northcote Thomas Collection. Reprinted with permission;[10] Figure 3a (middle): Thai *paoqin* drawn by Takatomo, Picture 16 and 25; 3b (right): A deity playing the one-string paoqin. This instrument is similar to a depiction in a small publication on Thai music by Prince Damrong Rajanubhab.[11] Both depictions were used in *East Asian Musical Instruments* by Hayashi Kenzo.[12]

It is recorded in *Lunyu* that "Could it be said that I am a gourd, only being tied to the string, instead of being eaten as food?" said Confucius. What he referred to was the gourd of the *paoqin*.[13]

The *berimbau*, an African *paoqin*, remained in the original form until today. Surprisingly, there is another one with three strings and three gourds in Africa looking very much like the Chinese oracle bone script 弓.

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9 Xu Shen [许慎].1963. *Shuo-wen Jie-zi*. Beijing: Zhong Hua Book Company.

10 The Thomas Northcote Collection catalogue. 2023. Available at: https://maa.cam.ac.uk/northcote-w-thomas-project, last accessed 6th July, 2023.

11 Rajanubhab, Damrong. 1931. Siamese Musical Instruments, with a translation into English by the Royal Institute of Siam. Bangkok: Academic Resources Institute, Chulalongkorn University. Plate 9.

12 Hayashi Kenzō = Lin Qiansan [林谦三]. 1962. *东亚乐器考 Dong ya yueqikao* [East Asian Musical Instruments], 462. Qian Daosun [钱稻孙] translated into Chinese for the People's Music Publishing House in Beijing. The copyright of the depictions used in this book were possibly not yet cleared. The depictions are digital reconstructions.

13 Confucius. 2002. *Lun-yu* [Analects]. Edited and partly translated by Huang Chichung. Beijing: Yanshan Publishing House./New York: Oxford Publishing.

The curved bow of the *paoqin* changed into a stick later, for example, as seen in the Thai *paoqin.* Not only did it have a gourd as the resonator but also its peg for the string to be attached looks like that.

Some of the *paoqin*s changed to be in a horizontal position, possibly influenced by the *zhudongqin,* such as the *zhu* and the *qin* in China. They were made in southern China and South Asia, where there is an abundance of bamboo. People selected a bamboo tube, carved a layer of skin into a number of strips, and inserted a splinter under each of them to make it tighter.

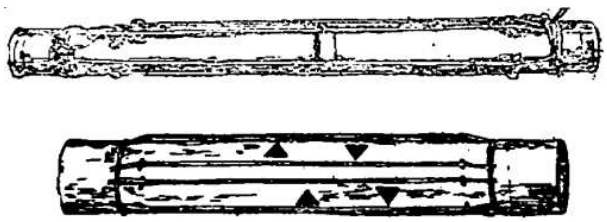

Figure 4: The *zhudongqin.* Depicted in *East Asian Musical Instruments* by Hayashi Kenzo.[14]

Kenzo Hayashi described the earliest *zhudongqin* in *East Asian Musical Instruments* that its body was made of a bamboo tube and strings were made of the skin between two ends of the tube, carved into strips, bending upward from the tube. Bridges were inserted under strings like common stringed instruments; or a small piece of wood was put between two strings to prop them apart, or a knot was tied in the middle of the strings so that a performer could play it by beating strings with a stick or a small mallet.[15] Judging from this construction, the *zhudongqin* was an idiochord. The *bamboo-qin* Chinese Wa people use until today seems a descendant of it.

Idiochords are widely distributed around the world, among which is the raft zither with a body formed of 19 internodes of bamboo in Nigeria in West Africa (https://www.horniman.ac.uk/object/2012.134). There are 11 (originally 12) idiochord strings carved from the bark of the cane, secured with bands of cane bark to tune the strings. Two carved sticks form the bridges at both ends, which define the vibrating length of the strings. A gourd to improve the sound is attached below the instrument.

A similar musical instrument remains in use for pingdiao, a local opera of Wu'an (武安), Hebei Province, China. According to Chinese musician Ma Ke, folk craftsmen "put pieces of sorghum stalks side by side and tied them

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[14] Hayashi Kenzō = Lin Qiansan [林谦三]. 1962.*东亚乐器考 Dong ya yueqikao* [East Asian Musical Instruments]. Qian Daosun [钱稻孙] translated into Chinese for the People's Music Publishing House in Beijing. The copyright of the depictions used in this book were possibly not yet cleared. Figure 4 shows a digital reconstruction.

[15] Ibidem, 131.

together; lifted up a thin layer of hard skin, cut it into strips to be used as strings. The product looks similar to a seven-stringed *qin* or the *zheng*. It made tinkling sound by beating."[16] Besides bamboo and sorghum stalks, other materials are also used for idiochords, such as cornstalk in North America or the rib of the sago palm in Eastern New Guinea.

As an idiochord, the unique construction of the *zhudongqin* necessarily required bridges to support strings. The *se* or the *zheng* also had bridges, one for each string, used to determine its pitch.

But the *zhu* or the *qin* was different, with strings attached to ends of the body, no bridges, and pitches adjusted by string tension, like the *paoqin*.

Chinese musical instruments were at times classified, by material, into eight categories in earlier times: gold, stone, earth, leather, silk, wood, gourd, and bamboo, "among which the *qin* (classified as guard) and the *se* (classified as *bamboo*) were particularly difficult to play because the former had to change pitches by adjusting string tension and the latter by moving bridges," said Jiang Kui in *Da-yue-yi* [Discussion of Music].[17]

THE *ZHU* IN THE PRE-QIN PERIOD, THE PREDECESSOR OF THE *GUQIN*

The *zhu*, the predecessor of the *Guqin*, was used as a tuner in the pre-qin period and became a fashionable instrument for performance in the Han dynasty. It is recorded in *Shi-ji* that "in the past, Shun made a five-stringed *qin* used to sing folksongs in the south."[18] There was one called *zhu* excavated from the tomb of Marquis Yi of Zeng, which was part of musical instruments in the south, serving the sorcery music in the ancient Jing-chu area.

The one-stringed *zhu* originated from the *paoqin* but consisted of a bamboo tube or half of it, like the *zhudongqin*. The single-stringed *bamboo-qin* excavated from Haining, Zhejiang, looks very much like it.

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[16] Ma Ke [马可].1959. Chinese Folk Music Speech. Shanghai: Music Publishing House. 133.

[17] Jiang Kui in *Da-yue-yi* according to Tuotuo and Alutu. 1985. *Song-shi* [The History of the Song Dynasty]. Beijing: Zhong Hua Book Company.

[18] Sima Qian [司马迁]. 2011. *Shi-ji* (Historical Records). Shanghai: Ancient Books Publishing House. N.p.

Figure 5: The *bamboo-qin,* a figurine of a musician excavated from Haining, Zhejiang.

According to *Shi-yi-ji,*[19] Shiyan was an official in charge of music under the Yellow Emperor and by the Yin dynasty, she specialized in the music of the legendary period, that of Three Emperors and Five Sovereigns, in the Yin dynasty. When she played the one-stringed *qin*[20], gods in the earth would be rising, and when she blew the pitch pipe, gods in the heaven would be descending.[21]

Confucius carried forward this tradition. "He sang, playing a stringed instrument, as many as three hundred and five folk songs from *Book of Songs* so as to sort them into *Shao* [韶], *Wu* [武], *Ya* [雅], *Song* [颂]," according to Shi-ji.[22] The instrument he used was supposed to be the same as that of Shiyan.

The *zhu* excavated from the tomb of Marquis Yi of Zeng looks like a stick, hewn from a whole piece of wood, slightly thin at one end. There is a peg like a mini gourd, which might be said is a birthmark of the *paoqin*.

Figure 6: The *zhu* from the tomb of Marquis Yi of Zeng.

It can be seen that there is a bridge on each end of the stick, with five holes spaced about 1 cm apart on the outside of it. It can be imagined that there could be five strings stretched between the two bridges, going down through

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[19] Wang Jia [王嘉]. 2019. *Shi-yi-ji*. Shanghai: Ancient Books Publishing House.

[20] *qin* was the generic name of the string instruments at that time

[21] Sima Qian [司马迁]. 2011. *Shi-ji* (Historical Records). Shanghai: Ancient Books Publishing House.

[22] Ibidem

the holes and coming up back to the peg. The peg is not for tuning but for strings to be attached. Moreover, there are no other bridges.

The way in which strings were fastened was handed down from the *paoqin*. They would create equal tension and the same pitch, so the five strings are, in fact, equal to a single string. They could produce tones to follow a tune by a player's striking strings on different points.

The five-stringed *zhu* was derived from the one-stringed *qin*. Its box remained long and narrow so that it supports a thin and clear sound as a tuner did. With these characteristics, the *Guqin* playing is easy for listeners to associate its sound with such descriptive terms as 'clear, elegant, quiet and remote'.

A performer would typically hold its thin end with his left hand and strike strings with a bamboo ruler in the right hand. He must untie strings to adjust their tension when it was necessary to change the pitch of strings; but it was impossible for five strings with such narrow spacing to make different tones separately. They would sound at the same tone simultaneously once being tapped. So, in order to play a piece of music, the performer would strike strings on different points to select tones for a tune.

The technique of playing the fretless instruments like the *Guqin*, the *sanxian*, or the *violin* by selecting tones on different points of strings with fingers is derived from playing the *zhu.* To this day, the way of "tapping a string with the thumb" remains among the techniques of playing the *Guqin*, named "yan".

The *zhu* can be seen in many archaeological relics, such as Western-han Royal Tombs of Changsha, on the coffin head of Tomb 1 of Mawangdui, on the food box in the Western-han Shiqi-Yao tomb, Lianyungang, as well as on the portrait brick of the Han dynasty.

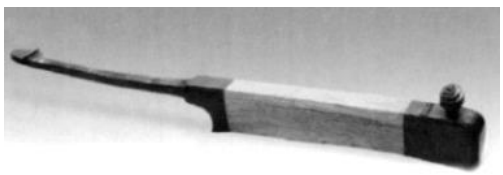

Figure 7: The *zhu* from the Western Han Royal Tombs, Changsha.

The surviving crocodile *qin* of Burma or that of Thailand remains in the original form of the *zhu:* a long stick, a big head, and a thin tail.

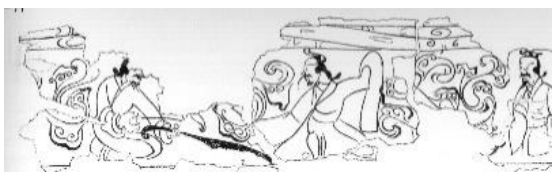

Figure 8a (left) and 8b (right): (left) The *zhu* from the Han tombs at Mawangdui and the *zhu* painted on the coffin head from Tomb 1 of Mawangdui.

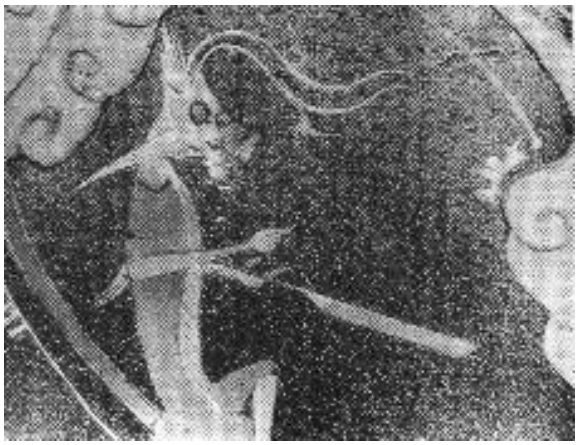

Figure 9: The *zhu* and a player with a beast head painted on the food box in the Western Han Shiqi-Yao tomb, Lianyungang.

Figure 10: The *zhu* on the portrait brick of the Han dynasty is the third from the right in the lower row.

Xu Shen described it in Shuowen Jiezi that 瑟, *zhu*, is a five-stringed instrument made of a bamboo tube; the upper portion looks like bamboo, and the lower portion 丌, like a man holding it with a hand.[23]

It is described in *Yue-shu* that 瑟, *zhu*, has a thin neck, round shoulders and bridges. It is used to define the vibrating length of strings, the way of playing is holding it with the left hand, and striking strings with a bamboo ruler in the right hand to select tones for a tune.[24]

In the figures above, performers play the *zhu* in the same way as what is described in *Yue-shu*, that is, holding it with the left hand and striking strings with a bamboo ruler in the right hand to select tones for a tune. Those 'bridges used to define vibrating length of strings' are supposed to refer to those named

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[23] Xu Shen [许慎].1963. *Shuo-wen Jie-zi*. Beijing: Zhong Hua Book Company.

[24] Chen Yang [陈旸]. 2021.*Yue-shu*. Beijing: Culture and Art Publishing House.

bridges fixed at the ends, differing from the bridges of the *se* or the *zheng,* and from the shared frets of the *wokonghou*.

It enjoyed increasing popularity for a time and became a household name later due to the story of the assassination of the King in the Qin dynasty. A lead rod, the assassin's weapon, was hidden inside its hollow body. The weak sound the *zhu* produced was an excuse for the assassin, the blind musician performing for the king, to get closer to the target.

The oracle bone script seems to refer to the same as what the term *zhu* does. Kang Yin interprets it in *On the Origin of Characters* that looks like performing on a stringed instrument, plucking strings with a plectrum or with fingers. The symbol represents the sound "*qiang*"… According to the analysis of the sound, looks almost like the prototype for the "*qin*" or nearly a full description of playing it.[25]

THE *WOKONGHOU* WITH SHARED FRETS IN THE HAN-WEI PERIOD

It is stated in *Shi-ji* that people paraded carrying statues of Gods in Nanyue and built temples for the worship of *Heaven* and *Earth*, for which dance and music began to be used; more boys were recruited for singing, and a 25-stringed instrument and a *konghou* were made. The *qin* and the *se* came into use from now on.[26]

The musical instruments *bell, chime, yu, sheng, zhu*, *and kanhou* were thought of the most popular in the Han dynasty in *Fan-jiang-pian*.[27] *Kanhou* was another pronunciation of *konghou*. People at that time were unable to pronounce such sounds as *j, q, and x* but *g, k, and h* instead, so *qin* was read as *konghou* or *kanhou*.

This topic is discussed at greater length in my *The Musical Instruments in the Brick Paintings in the Wei-jin Tombs in Jiayuguan* and *The New Discoveries of History of Ancient Chinese Music*.[28]

The *wokonghou* consisted of a flat wooden box placed horizontally and one or more strings stretching across the upper soundboard. The one-stringed

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[25] Kang Yin [康殷]. 1979. *On the Origin of Characters.* Beijing: Rong Bao.

[26] Sima Qian [司马迁]. 2011. *Shi-ji* (Historical Records). Shanghai: Ancient Books Publishing House. N.p.

[27] Sima Xiangru [司马相如]. 1993. *Fan-jiang-pian*. Shanghai: Ancient Books Publishing House, 20.

[28] Long Fei [陇菲]. 1981. *The Musical Instruments in the Brick Pictures in the Wei-jin Tombs, Jiayuguan*. Lanzhou: Gansu People's Press.

symbolized *Tai-yi,* the Lord of Heaven; the two-stringed symbolized *Liang-yi,* the *Yin-yang*; the three-stringed symbolized *San-cai,* Heaven, Earth, and Man; the four-stringed symbolized four *gong diao* or four seasons; the five-stringed symbolized the five elements in motion; the seven-stringed was the seven tones: *gong, shang, he, zhi, yu*, *shao-gong, and shao-shang.* No six-string *qin* is found in historical literature.

According to *Excavation Report on Brick Painting Tomb in Jiayuguan*[29] ,the zither on one brick painting is named *qin,* which is, in fact, the *konghou* (*wokonghou)* mentioned in *Shi-ji.* It had one or two strings and six shared frets.

Figure 11: The *wokonghou* (*Tai-yi*), on the brick painting in the Wei-jin tombs, No. 3, in Jiayuguan. Photograph by courtesy of the Cultural Relics Administration in Jiayuguan.

Figures 12a (left) and 12b (right): (left) The *wokonghou* (*Tai-yi),* on the brick painting in the Western Jin tombs; brick tomb of the Western Jin dynasty of Foyemiaowan, Dunhuang. Photographs by courtesy of the Gansu Institute of Cultural Relics and Archaeology; (right) The *wokonghou* (*Liang-yi*) from the Wei-jin tombs, No. 3, in Jiayuguan. Photograph by courtesy of Cultural Relics Administration in Jiayuguan, Gansu.

The six 3D shared frets of the *wokonghou* are clearly displayed on the figurine of celadon of the Three Kingdoms period, excavated from Tomb 4 in Shishantang, Erzhou City, with evidence for the relevant literature in the classical literature of China, Korea, and Japan.

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[29] Gansu Provincial Cultural Relics Team. 1985. *Excavation Report on Brick Painting Tombs in Jiayuguan*. Beijing: Cultural Relics Publishing House.

Figure 13: The figurine of celadon and the *wokonghou* with six shared frets, from Tomb 4 in Shishantang, Erzhou City.

The shared frets were lower than strings, so they never touched each other unless stopped tones were needed. The stringed instrument of such a structure was called *konghou* at that time as it is explained in *Han-shu* by Ban Gu, that "maybe it was named *konghou* due to nothing existing in the space between the strings and the sound box."[30]

Similar string instruments from abroad would be given Chinese names; for example, Persian harp and Indian *vina* were named *hu-konghou*; the prefix "*hu-*" means "non-native". Correspondingly, Chinese *konghou* was renamed *wo-konghou*; the prefix *wo-* means "in a lying position".

Figure 14: The *wokonghou* in the frescoes of the Eastern-Han tombs in Liaoyang.

There are more images of the *wokonghou* in other archaeological relics, such as in the frescoes of the Eastern-han tombs in Liaoyang, in the Koguryo tombs in Ji'an, in No. 17 ancient tombs in Ji'an, and in the paintings of the caisson ceiling of the Northern-wei tomb in Ji'an.[31]

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[30] Ban Gu [班固]. 1962. *Han-shu*. Beijing: Zhong Hua Book Company. For example, the "kong" means empty and the "hou" has no meaning, just an ending sound.

[31] Li Wenxin [李文信]. 1956. *Three Ancient Tombs with Frescoes in Liaoyang*. Beijing: Cultural Relics Reference Materials. 5; *中国美术分类 全集 Zhong Guo Mei Shu Fen Lei Quan Ji* [Complete Works of the Frescoes Excavated in China]. 2014. Beijing/Quingdao: Rénmín měishù chūbǎn shè, Qīngdǎo chūbǎn shè.

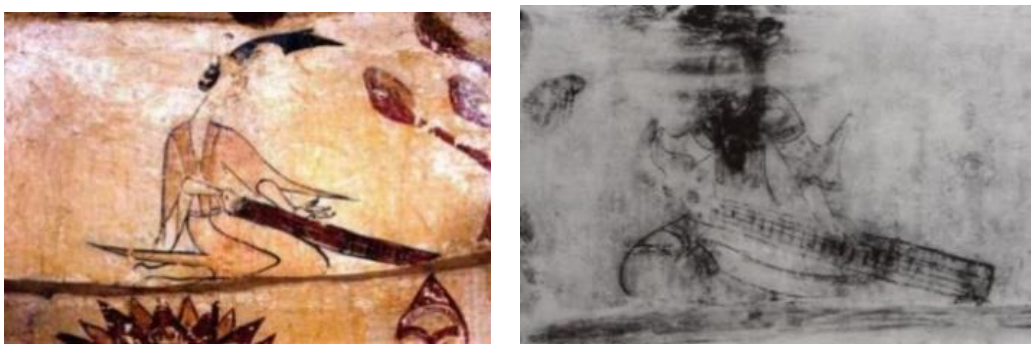

Figure 15a (left) and 15b (right): (left) The *wokonghou* in No. 17 ancient tombs in Ji'an; (right): The *wokonghou* in the fresco in the tomb of terracotta dancers in Ji'an

The *wokonghou* in the Han dynasty was four-stringed. So was the one painted in the Koguryo[32] tombs, Ji'an. In succeeding dynasties, it varied in a number of frets and strings. By the Jin-sui period, it had increased to seven strings, the standard type since then.

The *wokonghou* was introduced into Japan, which is described in *Ti-yuan-chao* as follows:

The *wokonghou* is 2.9 chi long, 0.6 chi wide at the top, and 0.51 chi wide at the bottom. It looks like the *qin* with five strings but smaller, and is plucked with a plectrum. But it has four strings in this picture; its frets look like those on the *pipa*.[33]

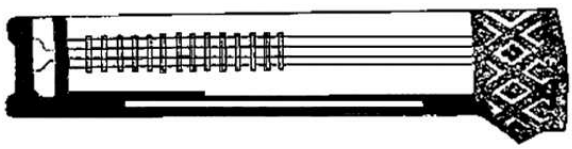

Figure 16: The *wokonghou* in *Ti-yuan-chao.*

Mr. Yang Yinliu pointed out that frets of the stringed instruments are mostly shared by multistrings. In this case, a perfect major interval between two tones in *san-fen sun-yi* or that in the scale of just intonation inevitably results in a

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[32] Gardiner, Kenneth H.J. 1982. Legends of Koguryŏ (I-II): Samguk Sagi, Annals of Koguryŏ. Translation of book one of the Goguryeo bongi. *Korea Journal*, 22(1): 60-69 and 22(2): 31-48.

[33] Toyohara Sumiaki (丰原统秋). 1962. Ti-yuan-chao as quoted in: Hayashi Kenzō = Lin Qiansan [林谦三]. 1962. *东亚乐器考 Dong ya yueqikao* [East Asian Musical Instruments], 201. Qian Daosun [钱稻孙] translated into Chinese for the People's Music Publishing House in Beijing. Figure 16 shows a digital picture reconstruction.

minor interval between two tones on adjacent strings or different strings. In other words, the stringed instruments with fixed shared frets will necessarily cause structural damage to the system of *san-fen sun-yi* or that of the scale of just intonation and then errors and chaos due to the tones of the same degree with microtone differences. These stringed instruments have no other tone systems which are suitable to adopt than equal temperament. Accordingly, their emergence itself implies a reasonable requirement for equal temperament.[34]

The shared frets of the *wokonghou* brought a problem into the performing practice, that is, the tones at the same degree with microtone difference. Various methods were attempted time and again on the change to the *wokonghou* construction. In this process, musicians improved on their understanding of the theory of temperament greatly.

The *wokonghou* was introduced into Korea, named *geomungo*, the ancestor of Korean *gayageum*, in the Han Jin period.

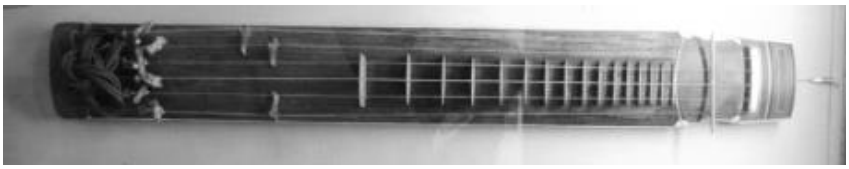

Figure 17: Korean *geomungo* in National Gugak Center.

It is recorded in *History of the Three Kingdoms* of Korea that the *geomungo* was made as an imitation of a Chinese *qin*. It was not known what it was and nothing about what sound it could make and how to play it. A generous reward would be offered for relevant information. Wang Shanyue, the second prime minister then, had a wooden sample and made it into a new one with some changes. Meanwhile, more than a hundred of tunes were composed for it. Black cranes would be flying here dancing when hearing the music. Hence, it was termed black-crane *qin* originally. Afterward, it was renamed *geomungo*.[35]

The *geomungo* has six strings, three of which share 16 fixed frets and the other three have movable bridges separately. The former three, consistent with Heaven, Earth, and Man, correspond to three pitches *doh (huang-zhong), sol (lin-zhong), and re (tai-cu*) , and the latter three, consistent with the number of tones which need adjusting when the tonality and mode change, correspond

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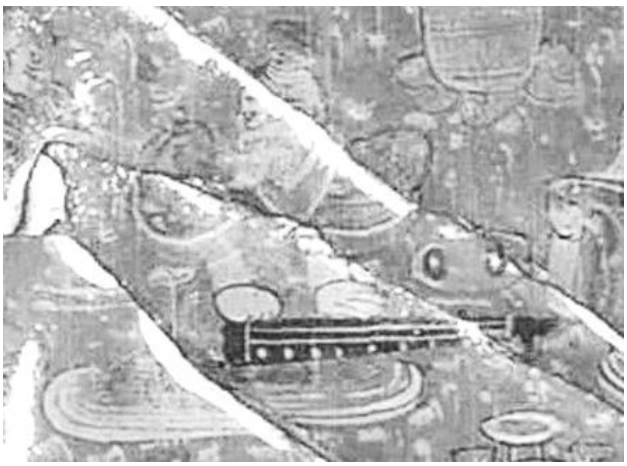
[34] Yang Yinliu [杨荫浏]. 1955. *Outline of Chinese Music History*. Shanghai: Music Publishing House, 188.

[35] Jin Fushi [金富轼]. *History of the Three Kingdoms (Korea), 2*. Harbin: Heilongjiang Education Press.

to three pitches *mi (gu-xian), la (nan-lu), and xi (ying-zhong)*. It was the improved *wokonghou*, as a living fossil of the experiment of temperament.

THE *GUQIN*, SEVEN STRINGS AND THIRTEEN *HUI*, AFTER THE JIN-SUI PERIOD

The shared frets could intuitively display the isomorphic regularity of divisions on strings with different pitches. Musicians in the Sui Dynasty, like Wan Bao-chang and others, inspired by this, managed to transform the musical instrument, removing the shared frets from it and then placing 13 shared studs on it. The studs of jade were embedded in the surface, arranged longitudinally in a single row. The seven- stringed *qin* and 13 studs were established as the standard type of the later *Guqin* in the Jin-sui period. The stud was named *hui* after the *cord-hui*, which was used originally to tie a string to a peg and adjust the pitch. The stud functioned as it did.



Figures 18a (left) and 18b (right): (left) The *Guqin* with the *hui* on the lacquered plate of Prince Huiyan in Leigai Tomb of the Eastern-jin dynasty, Nanchang. (right): Jikang and the *Guqin* with the *hui* on the brick painting in the Southern dynasty.

Figure 19: The *Chunlei-qin* of the Tang dynasty in Palace Museum of Taiwan.

Using any string as gong, the positions for the stopped tones produced by pressing hard that the 13 studs indicate show the isomorphic regularity of divisions of strings.

shang	qingshang	jue	qingjue	zhi	yu	gong	jue	zhi	gong	jue	zhi	gong
re	#re	mi	fa	sol	la	doh	mi	sol	doh	mi	sol	doh
D	#D	E	F	G	A	C	E	G	C	E	G	C

Figure 20a: Isomorphic regularity of divisions of strings.

Using the 7th *hui* as the dividing point, it can be seen that the overtones produced by tapping gently that the 13 studs (*hui*) indicate fall into two identical and symmetrical groups, which shows the isomorphic regularity of natural overtones of strings.

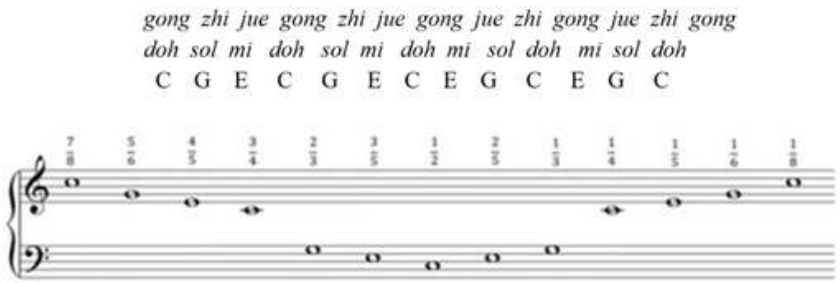


Figure 20b: The overtone pitches the 13 studs (*hui*) indicate.

The overtone series that the 13 studs (*hui*) indicate is: fundamental tone, quintuple (M3), triple (5th), duple (octave), and quadruple (octave), exactly the same as the yin-yang series shown on the *zhuchi* excavated from the tomb of Marquis Yi of Zeng.

The *zhuchi* from the tomb of Marquis Yi of Zeng is a closed wind instrument with blocked ends, five sound holes on a plane, a blow hole at the head end of the other plain, and another sound hole at the tail end. It can produce overtones only odd number of times when overblown: triple, *sol*; quintuple, *mi*; septime, b *xi*; ninefold, *re*; 11-fold, # *fa*; thirteen-fold, b *la*; and so forth.

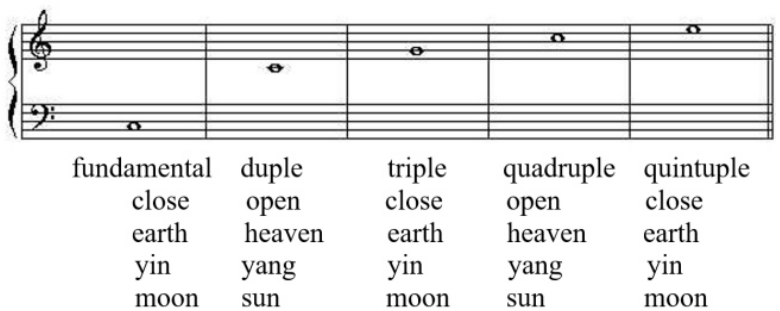


Figure 21: An explanation of overblowing on the zhuchi.

When all the other sound holes are closed and the tail hole is either opened or closed in turn repeatedly, definite overtones are produced. Ancient Chinese musicians classified them into two equal groups: the earth and the heaven, the moon and the sun, and the yin and the yang.

The temperament in the pre-qin period was that an octave was divided into three major 3rd of just intonation and in turn into six; then the six tones (*lu,* classified as the *yin*) were obtained; 4ths below and 5ths above of just intonation were produced repeatedly, which resulted in the five tones (classified as the *yang*). Four out of the five tones *(doh, re, sol, la)* were selected as four bases, on which major 3rd of just intonation was superposed; then appeared the 12 lulu composed of *gong, pu* (*jue*), and *zeng* in the inscription of the bell from the tomb of Marquis Yi of Zeng as follows:

zhi, zhi-pu, zhi-zeng (G-B-#D)
yu, yu-pu, yu-zeng (A-C-#E=F)
gong, gong-pu,gong-zeng (C-E-#G)
shang,shang-pu,shang-zeng (D-#F-#A=bB)

The temperament of the *Guqin* followed the traditional principle that the *yang (male)* was adjusted by the *yin*; that is, using *gong* as the medium, *gong-jue of* major 3rd of just intonation were determined. After that, *gong (doh)* and *jue (mi)* produced *zhi (5th - sol)* and *yu*, respectively.

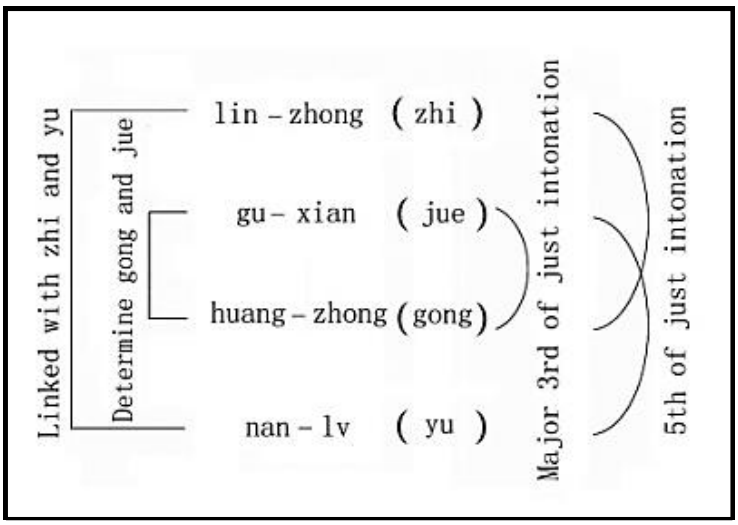


Figure 22: The tone system of the *Guqin*.

The overtone series of the *Guqin* follows the tone system in the pre-qin period, and so does the tuning mode of its seven strings. In the practice of the later *Guqin,* using the standard tone *he* as *zhong-lu-gong* of the third string and *xia-zhi* as *huang-zhong-gong* of the first string, *gong-jue* of major 3rd of just intonation of *zhong-lu-he (fa*) and *nan-lu-yu (la*) is determined separately. Therefore, both the five tones *he, gong, zhi, shang, and yu* of the octave of *huang-zhong-gong* and those *zhi, yu, gong, shang, and jue* of the octave of *zhong-lu-gong* conform to the standard of overtones. The first string is commonly known as the big one, and the third string as the middle one.

So, according to the normal tuning mode, the pitches of seven strings are: *huang-zhong-gong*（equal to C）*, doh, re, fa, sol, la, doh, re; zhong-lu-gong*（equal to F）*, sol, la, doh, re, mi, sol, la.*

gong	*shang*	*he*	*zhi*	*yu*	*shao-gong*	*shao-shang*
huang-zhong	*taicu*	*zhong-lu*	*lin-zhong*	*nan-lu*	*qing-huang*	*qing-tai*
C	D	F	G	A	C	D

Figure 24: Scheme of different naming systems.

Joseph Marie Amiot, a French Jesuit missionary, inspired by *Gu-yue-jing-zhuan* (*Interpretation of Ancient Chinese Music Classics)* by Li Guangdi (a great scholar in the Emperor Kangxi period of the Qing Dynasty), described the sequence of Guanzi's *san-fen-yi-sun* in the same way, that is, using the sequence of *he- fa, gong-doh, zhi- sol, shang- re,* and *yu- la* to determine the octave of *zhong-lu-gong.*

The tuning mode of the seven strings fully conformed to the natural standard of overtones, neither against the concept of ritual music that "the big string is *gong*" nor against that "*gong* is in the middle. In this way, *gong-jue* of major 3rd of just intonation of 386 cents of *he- fa* and *yu- la* took the place of *gong-jue* of circle-of-fifths of 408 cents so that the five tones, the seven tones, or the 12 *lu* conformed to the standard of natural overtone. "If *gong* is equal to *fa*, the music will please the ear of the Chinese throughout the performance. But it will never happen when *gong* is used as *doh* or any other tone," said Amiot.[36]

There is a special discussion of this in my *A Study of Cases in the History of Ancient Chinese Music.*[37]

The Chinese classical tradition in the mind of Amiot, that is, using *zhong-lu* as *gong* to obtain *nan-lu-jue* of major 3rd of the just intonation above *zhong-lu*, has been handed down from generation to generation by orally teaching the dulcimer artists in Sichuan. "Where does A come from? It's produced by major 3rd of just intonation above F. Without F, A would be like a tree without roots or water without a source," said Li Chengyu, a dulcimer artist.[38]

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[36] According to Chen Yanxia. 1974. *La Musique Chinoise En France*. Translated by Geng Sheng. Beijing: Commercial Press, 131;

[37] Long Fei [陇菲]. 2022. *A Study of Cases in the History of Ancient Chinese Music*. Hong Kong: Zhong Hua Book Company.

[38] Li Chengyu. 1992. Gong-mode of Sichuan Dulcimer. Beijing: *Journal of the Central Conservatory of Music*.

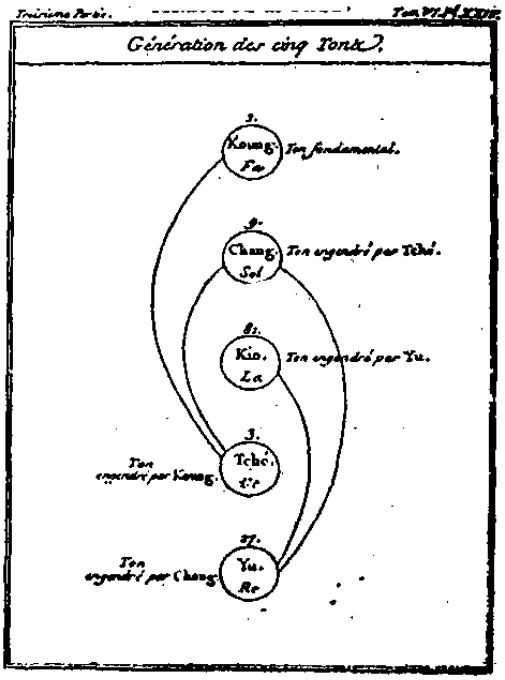

Figure 25: The sequence of Guanzi's *san-fen- yi-sun* by Amiot.[39]

The development from the *zhu* to the *wokonghou* all the way to the *Guqin* appears a process from addition to subtraction, that is, placing the shared frets on it first and then removing them from it. So does the piano. In order to distinguish the tones at the same step with different pitches, such as #D & bE and #G & bA, the harpsichord, the predecessor of the piano, was equipped with black keys divided into two sections.

Thus, intonation was guaranteed, but the difficulty of modulation increased because a different tonality needed a different portion of the black key. In order to facilitate the conversion between 24 major and minor scales, Bach eventually put aside the given intonation and abandoned the division of black keys. The pity is that it is no longer possible for the microtone differences of the tones of the same degree with different pitches to be distinguished on the simplified piano. As shown in the music score below, #G & bA and #B & C are treated as enharmonic tones on the piano and the microtone differences of the tones of the same degree with different pitches are completely ignored.

[39] Hermans, Michael. 2019. Appendix 2, Amiot's Life. The Mandate of Heaven. Leiden: Brill. 224–274. DOI:10.1163/978900 4416215_, last accessed 7th July, 2023.

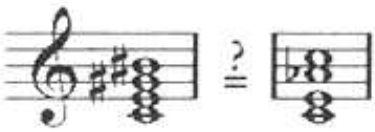

Figure 26 (left): The two sections of black keys on a harpsichord; Figure 27 (right): So-called enharmonic tone conversion.

FINAL THOUGHTS

The *Guqin*, quite different from the piano, did not give up the natural measure of tones but uses 13 studs (*hui*) to indicate positions for overtone pitches, replacing the shared frets removed. Accordingly, performers could do fine tuning with ease following the *hui*. The 13 *hui*, the tuning mode of 4th below and 5th above of *san-fen-yi-sun*, and establishing *gong-jue* of major 3rd of just intonation linked with *zhi-yu* of circle-of-fifths formed the tone system of the *Guqin,* the *tao* of it. The invisible *tao* became a physical instrument. The *Guqin* is the incarnation of *tao*. It fused the structure and function into one so that the unification of *tao* and technology was fulfilled.

Ockham tells us the principle that one never put more on what can be accomplished with less.[40] Toynbee stated in his *A Study of History* that in this process, those forces, originally constrained in an overly complicated material medium, are emancipated and able to play a greater potential in a freer one.[41]

The *violin* family developed in the same way as the *Guqin* did, from being complex to simple. But, compared with the former affected by 12-tone equal temperament, the latter had a purer and more natural tone system. The simplified *Guqin,* which has resolved the contradiction between man-made tone systems and natural overtones, is able to apply freely a unified tone system composed of different methods of tone determination.

He Yuan wrote on the *Guqin*:

> As far as I'm concerned, no other musical instruments are able to produce such charm of antique sound than the tunes played by the *Guqin*. There is no need to mind its simplicity and plainness in

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[40] Ockham. 2010. *Notes on Proverbs*. Beijing: The Commercial Press.

[41] Toynbee, Arnold J. 1964. *A Study of History.* Shanghai: People's Publishing House, 250.

> appearance; when the strings are tuned and the peg is tightened, the beauty of nature in remote antiquity would appear in our imagination.[42]

Xu Shangying[43] discussed performing the *Guqin* as follows:

> Tuning strings with the normal tuning mode, following the *hui* to select sounds; determining tones through fingers and examining the intonation by ear.
>
> Stopped tones and overtones reference to each other so that the true harmony of strings is fulfilled.
>
> The intonation may be determined by the *hui* or may be not; it depends upon the fine divisions between them.

In *Da-huan-ge Guqin Score* by Xu Qingshan, a *Guqin* master in the Kangxi period of the Qing dynasty, the distance between two positions of the *hui* is finely divided into 10 equal parts. For example, seven-point-six *hui* is simply marked as seven-six and ten-point-eight *hui* as ten-eight and so on.[44]

The movement as a medium disappeared from its own results without any trace left, as Karl Marx said in *Capital*.[45]

The *Guqin* looks unsophisticated, with great wisdom lying under its plain appearance. Now it is no longer possible to see, on the *Guqin,* the technique of selecting tones by striking different points of strings on the *zhu,* nor the shared frets of the *wokonghou*. Nevertheless, the conclusion that one string should produce multi-tones and the same coordinating system of the *hui* different strings as the movement of the evolution are assimilated into the connotation of temperament of the *Guqin.*

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[42] He Yuan [何蓬]. 2018. Chunzhu Jianwen. Beijing: China Bookstore Press.

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REMARKS

This article was translated by Zhang Yikai from Long Fei's *Evolution of the Qin: From Musical Bow to Guqin* [Chinese version], submitted to the ICTM colloquium *From Musical Bow to Zithers along the Silk Road*, 2–3 December, 2022.

All depictions and figures are reprinted with permission.

The musical bow is usually considered one of the earliest instruments in the history of instrumental development; yet, the validity of this view has not been proven. In all likelihood, it was one among many other early instruments created to produce sound. The same can be said in general for all the simple chordophones called zithers, of which the musical bow is one type.

The papers collected in this volume have been initially presented at the International Council for Traditional Music Colloquium (ICTM) held in Shanghai in December 2022. They try to challenge some previous depictions of instrumental development and one-sided explanations of musical histories. They specifically focus on exploring the interrelationship between instrumental development and the availability of natural resources in particular geographical regions. While the papers at the colloquium focused on sound production, they also explored the role of ethnomusicology as a discipline in guiding local decision making and interregional research co-operation.

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